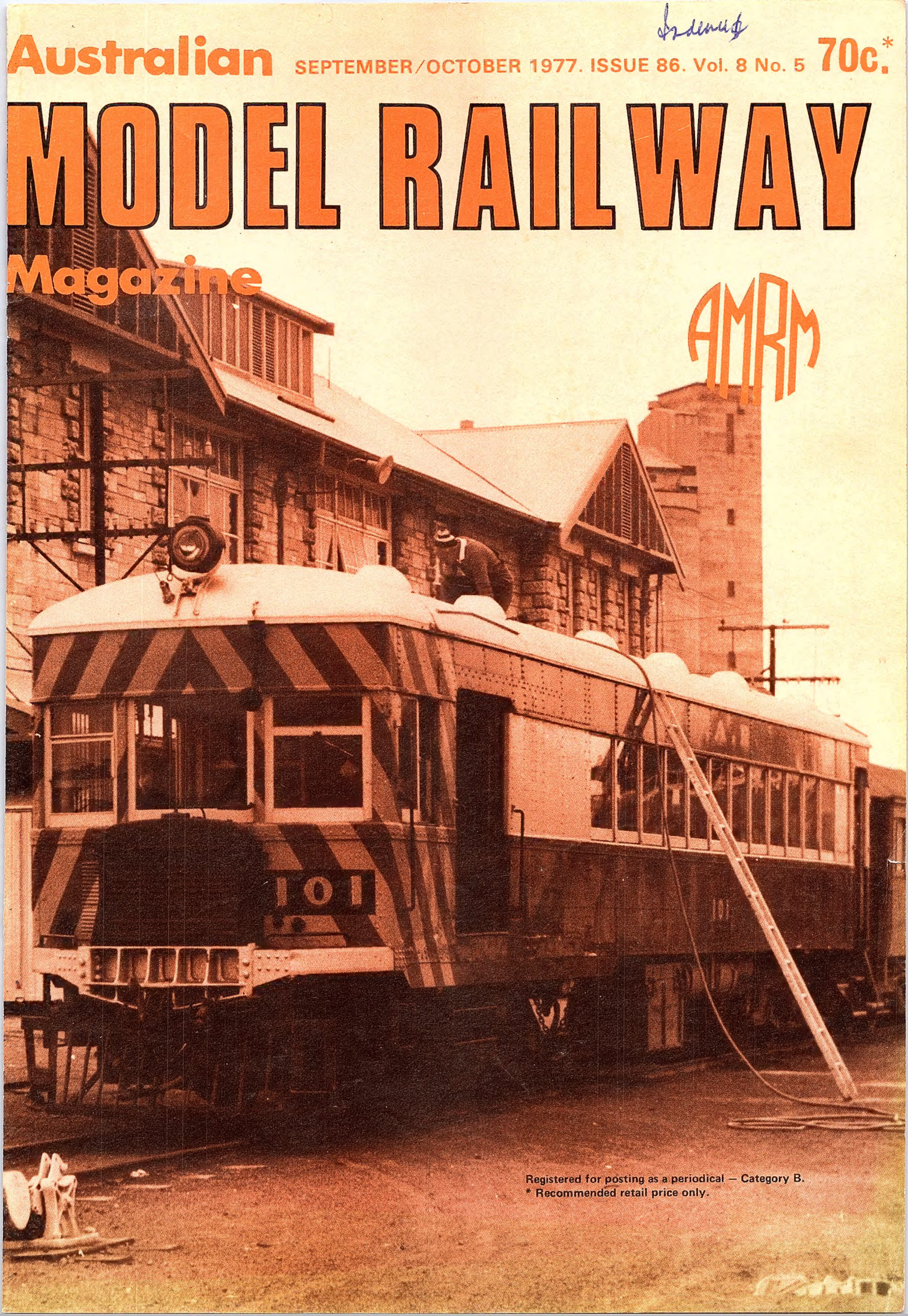
Australian SEPTEMBER/OCTOBER 1977. ISSUE 86. Vol. 8 No. 5 70c.*

MODEL RAILWAY

Magazine

AMRM



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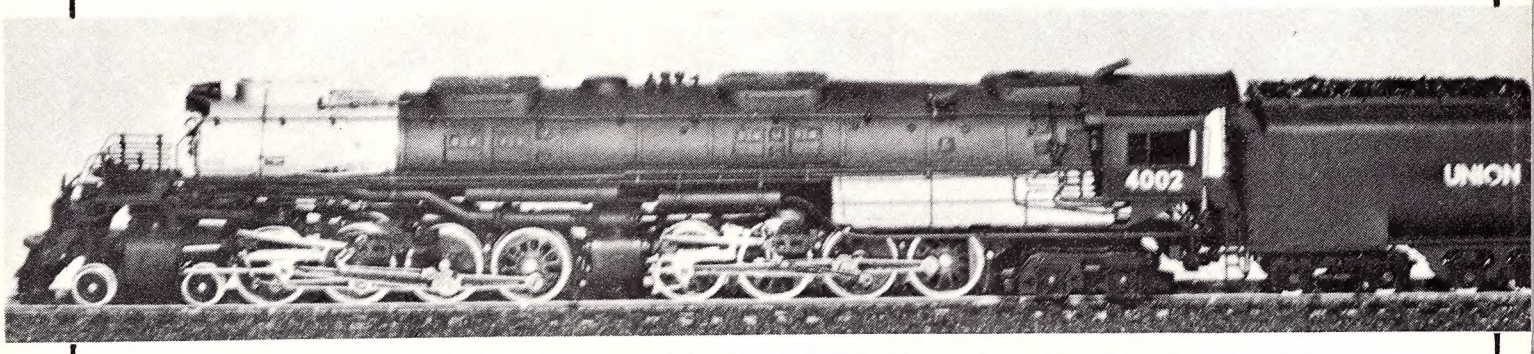
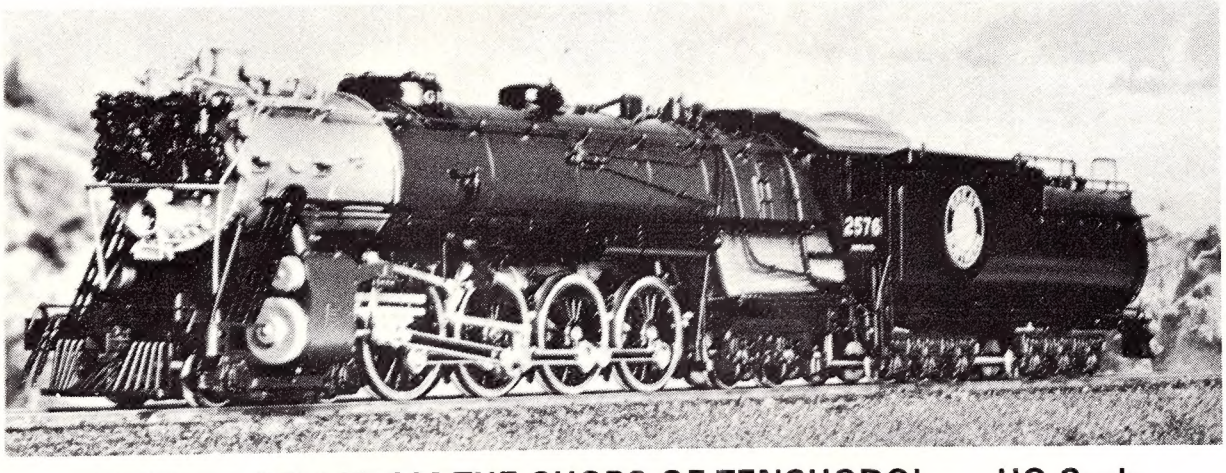
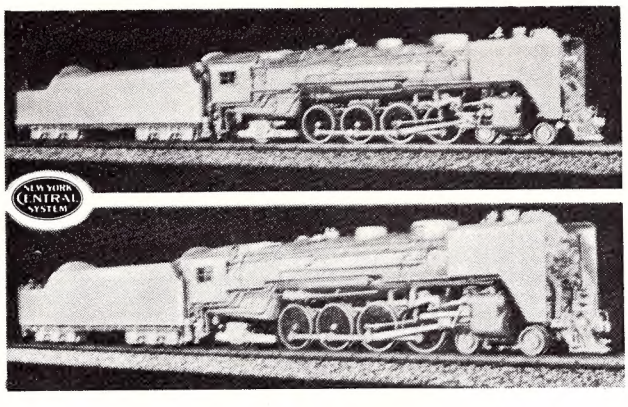
NEW DELIVERIES IN MOTIVE POWER....



19" OVERALL AND TOO LONG TO ADEQUATELY ILLUSTRATE HERE! . . .
TENSHODO'S MIGHTY HO U.P. "BIG BOY". AGAIN AVAILABLE IN LIMITED QUANTITY.
PRICE: $951.00.



ANOTHER GEM FROM THE SHOPS OF TENSHODO! . . . HO Scale.
G.N. 4-8-4 "S-2" LOCO AND TENDER, IN "GLACIER PARK" LIVERY. PRICE: $492.50



L-3a and L-4b 4-8-2 "MOHAWKS"

	L-3a	L-4b
DRIVERS:	69" Box Pox	72" Scullin
PILOT WHEELS:	33"	36"
CROSSHEAD:	Alligator	Multiple Bearing
SMOKE BOX:	Std. NYC	Niagara Type
FRONT END:	Single Shield	Double Shield

Both models feature working drop couplers on their Commonwealth pilots and functional Baker valve gear. Both are equipped with long haul NYC tenders.

HO SCALE. FROM KEY IMPORTS.
EITHER LOCOMOTIVES: $246.00 ea.

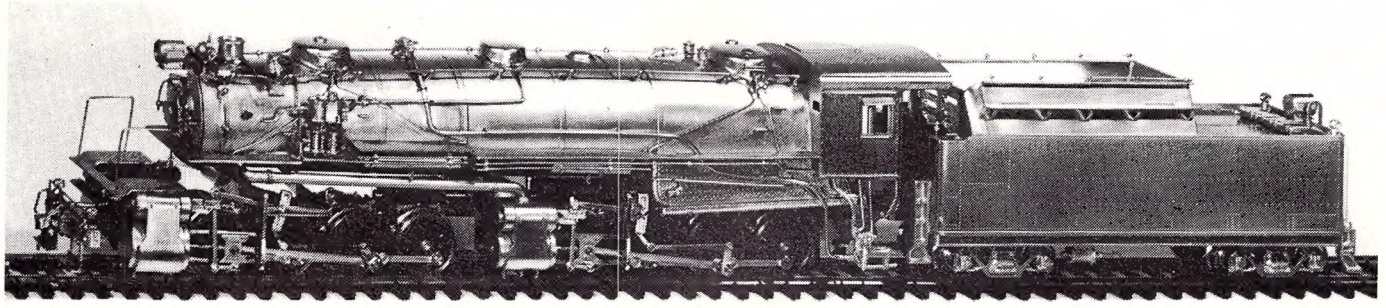
N SCALE. STREAMLINED 20th CENTURY 4-6-4 "J3a" HUDSON LOCO AND TENDER BY SEKISUI/CON-COR. PRICE: $88.50.

SOLE AGENT & IMPORTER

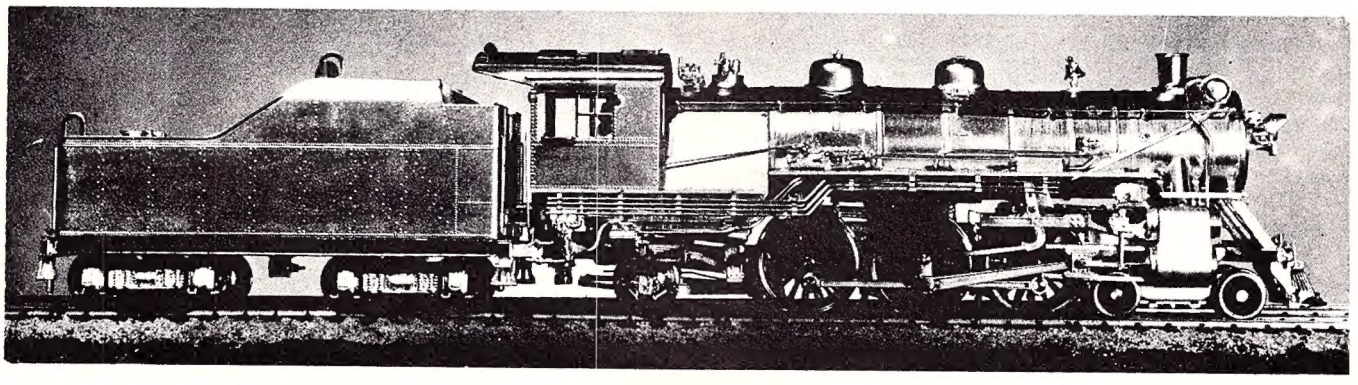
THE MODEL DOCKYARD PTY. LTD.

216-218 SWANSTON ST. MELBOURNE. PHONE: 663 3505

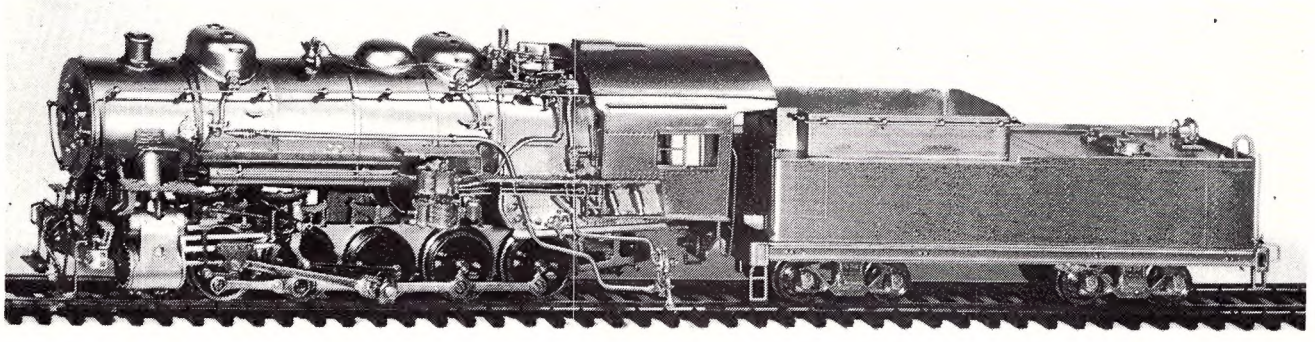
NEW DELIVERIES IN MOTIVE POWER....



HO SCALE P.R.R. 0-8-8-0 ARTICULATED LOCO AND TENDER. FROM THE SHOPS OF CUSTOM BRASS. PRICE: $444.95.



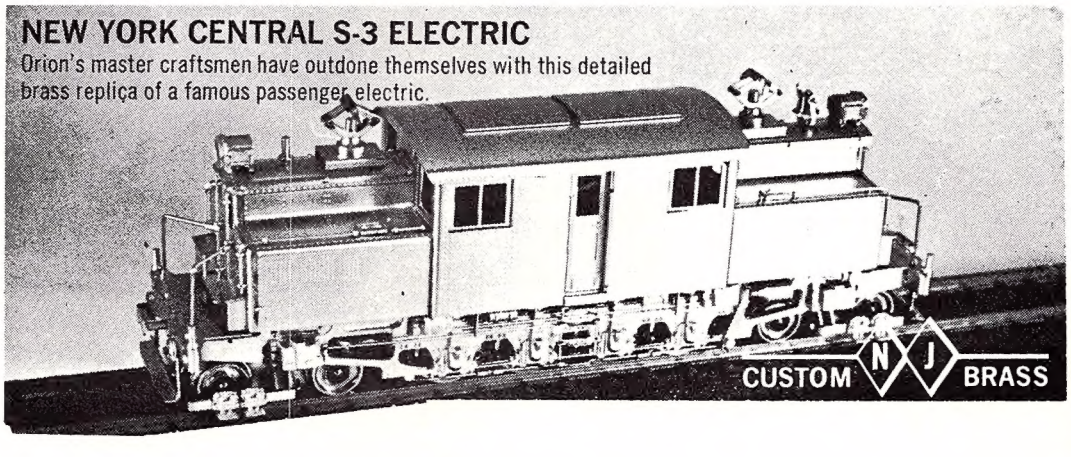
BUILT TO THE ORDER OF NICKEL PLATE PRODUCTS . . .
HO SCALE WABASH 4-6-2 "J-1" PACIFIC LOCO AND TENDER. PRICE: $244.85.



HO C. and O. 0-10-0 "C-12" SERIES LOCO AND TENDER.
MANUFACTURED TO THE ORDER OF CUSTOM BRASS. PRICE: $217.95.

THE FAMOUS "GEARLESS MOTORS" PROTOTYPE OF SO MANY TOY LOCO'S OF YESTERYEAR! HO SCALE. PRICE: $227.00

NEW YORK CENTRAL S-3 ELECTRIC
Orion's master craftsmen have outdone themselves with this detailed brass repliça of a famous passenger electric.



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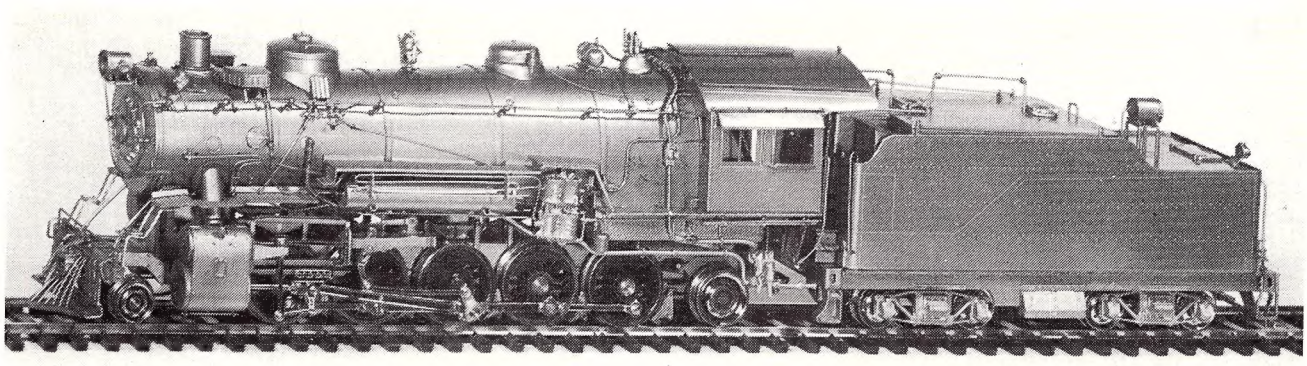
NEW DELIVERIES IN MOTIVE POWER . . . .



FROM HALLMARK MODELS . . . HO SCALE A.T.& S.F. 2-10-2 "900" SERIES LOCO AND TENDER. PRICE: $247.50.

Other News from the Dockyard . . .

The annual task of stocktaking usually turns up one or two items which had become misplaced on our shelves during the year and this June was no exception. Our stocks of HO brass traction equipment was found to contain one only P.E. 1300 Series Combine @ $41.50 and four only L.A. Rys. B-1 Type Car @ $45.00 each. Since both models have long since been deleted from our price list, traction fans requiring either Car should contact us without delay . . . Further stocks of HO and N scale Aerial Ropeways are now available, together with related terminal structures. For covering Price List, send large stamped SAE . . . Last issue our notes carried a detailed coverage of anticipated deliveries of brass models for the second half of 1977. In addition, we are now able to include the following HO scale Locomotives coming from Key Imports: S.P. "M-21" 2-6-0, D.&R.G.W. "K-59" 2-8-2, A.T.&S.F. "3751" 4-8-4, D.&R.G.W. "583" 2-8-0, N.Y.C. "L-3b" 4-8-2, N.Y.C. "L-4a", A.T.&S.F. "1226" 4-6-2, Light USRA 2-8-2, N.Y.C. "400" 2-8-2, U.P. "2480" 2-8-2, G.T. "3700" 2-8-2 and HOn3 D.&R.G.W. "C-18" 2-8-0 . . . HO and N scale Traverser Tables are now available through all our regular stockists for Shinohara Track. Of German make, designed to accept up to six parallel tracks, these Transfer Tables are electrically operated (12-16V) and come complete with Controller. Prices: HO scale, $112.00; N scale, $92.50 . . . A further shipment covering the full Cal-Scale range of HO castings is now to hand, including some 11 new items. For full details, consult our HO Fittings List @ 95c per copy. Postage, 40c extra . . . The finest and most comprehensive range of HO and N scale lineside motor vehicles is made by "Viking". See them at your nearest stockist of 'Dockyard lines, or at our own premises. Many new items are now available, including Prime Movers, featuring twin exhaust stacks! For covering Price List, send large stamped SAE . . . Now to hand from Suydam is the long awaited HO P.E. 1401 Series R.P.O. Car @ $79.45 . . . From Northwest Short Line, the full range of "Sagami" Can Motors (all with double extended shafts) are now in stock. Available from your nearest stockists of brass locomotives, or direct from our premises . . . Shinohara's N scale Code 70 track range will be further enhanced with the addition of a No. 6 Double Crossover. First stocks of which should be available by the time these notes appear in print . . . Brass locomotive developments in "O" scale continue steadily and the state of the art, always high, is now reaching a degree of perfection previously unknown. The Alco "S-1" Diesel Switchers, now to hand from Custom Brass @ $495.00 each, feature full cab interior detailing, with delrin chain drive and all axles powered. From Katsumi, the big P.R.R. "M-1" Series 4-8-2 Locomotives are expected to arrive in September, whilst about the same time or a little later, the massive G.N. "Y-1" Electric Locomotives will be to hand from Custom Brass. These impressive Locomotives, with their 1-C+C-1 wheel arrangement, will come powered with two Pittman ball bearing motors. One to each engine frame with delrin chain drive. Both main frames will be fully articulated with sprung journals. Whilst other features will include working end doors and cab windows, full brake rigging, lost wax wheel centres with steel tyres, insulated pantographs and lost wax side frames, lead trucks and added detail . . . By the time these notes appear in print, we expect to have delivery of a number of important shipments. These will include: HO "SD" Truck Sets, Nickel Plate Products N.Y.C. "A-1b" 2-8-4 Loco and Tender, HOn3 4'6" Wheelbase Archbar Trucks, 16 and 20 mm Dia. "Can" Motors, HO 0-4-0 Plantation Tank Loco., Alco's HO SD45T-2 Diesel Loco, HO C.P.R. Kettle Valley 5-Car Passenger Train and from Shinohara, first stocks of the new HO Code 70 Scissors Crossover . . . Toward the end of 1977. Alco Models production will include: HO P.R.R. "S-2" 6-8-6 and "K-4s" Pacific type Locomotives. New Diesel Locomotive runs, about the same time, will include: HO RS-1, RSD-4/5. RS-2 and RS-3 Types. Whilst Westside will be delivering the HO S.P. 2-10-2 "F-5" Series Locomotive . . . Nickel Plate Products announce tooling in hand for HO C.N.R./G.T.W. 4-8-4 and Rock Island 2-6-2 Locomotives. Also, for the long awaited U.P. M-10000 4-Car Diesel Articulated Streamliner which will come painted and finished. Shipment is anticipated in the November/December period.

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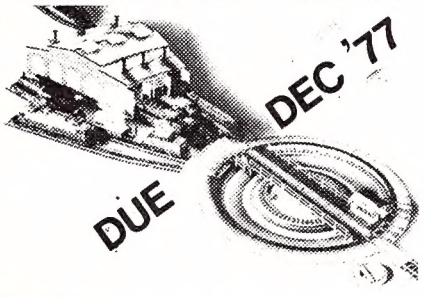
No.	Description	Price
	HO LOCOMOTIVES	
4000	0-4-0 Black Anna	$24.67
4016	2-4-0 Local Tank	$47.74
4064	2-6-2 Tank	$61.15
4141	2-6-0 Mixed Traffic Tender	$65.34
4145, 4146	0-8-0 Goods Tender	each $67.40
4170	4-6-2 Pacific	$86.15
4175, 4177, 4178	2-10-0 Heavy Goods	each $94.84
4200	0-4-0 Diesel Yard Shunter	$26.20
4225	0-6-0 Heavy Diesel Shunter	$49.60
4231	Bo-Bo Mixed Traffic Diesel New Colours	$55.97
4235	Red Stag Diesel	$62.00
4305	Cog Wheel — Climb 35% Gradient	$39.00
6411	Flexible Rack Rail — 204 mm.	.74
4330	Bo-Bo Electric Goods, Metal Body	$74.88
4336	Bo-Bo German Tee Express, Electric	$72.38
4338	Bo-Bo Multi-Purpose Electric	$73.63
4341	Bo-Bo Swiss Tee Express, Electric	$71.00
4246, 4247	British Rail Warship, Diesel	each $65.34
4369	2-6-2 Heavy Electric, Metal Body	$87.36
4375	Co-Co German Tee Express, Electric	$74.88
4380	Co-Co Heavy Traffic Electric	$74.88
	HO "LOW COST" — HIGH QUALITY WAGONS	
5000	Guards Van	$3.62
5001	Passenger Coach	$3.62
5011	Low Sided Open Goods	$2.80
5012	High Sided Open Goods	$3.12
5026	Beer Van	$3.00
5030	Esso Tanker	$4.24
5031	Shell Tanker	4.24
5041	Covered Goods	$3.12
5042	Refrigerated Goods	$3.12
5046	Cold Storage	$3.12
5500	Dump Car (Operating)	$2.52
6481	Unloader for No. 5500	$2.18
6484	Dumpable Cargo for No. 5500	$1.25

	HO COACHES	
5051, 5052	German 4 Wheel, Green	each $8.42
5055	German 4 Wheel Baggage	$8.74
5053, 5054	Swiss 4 Wheel, Blue/White	each $9.67
5056	Local Coach 4 Wheel, Red/Cream	$6.99
5092, 5093	German 6 Wheeled, Green	each $11.72
5101	German Baggage; 5103 1st Class; 5104 2nd Class; 5105 Dining; 5106 Sleeper	each $13.73
5120, 5121, 5122	Silver Push-Pull Set Tail Lights	$48.99
5146	British Rail 1st/3rd Bullied Type	$14.82
5147	British Rail 3rd Bullied Type	$14.82
5148	British Rail Brake/3rd Bullied Type	$14.82
5130, 5131, 5133, 5134	Swiss Set	$59.79
5160, 5162, 5163, 5169	German Red/Cream T.E.E. Set Tail Lights	$62.60
5190, 5191, 5192	German Express Set, Turquoise/Cream, Baggage, 1st and 2nd Class	$42.94
	Lights Available for All Coaches.	
	HO WAGONS	
5205	High Sided Open Wagon	$5.50
5219	Flat Car with Truck Load	$8.62
5233	Container — 2 x 20' Danzas	$11.73
5285	Double Deck Bogie Auto Rail — 8 Cars	$18.59
5300	Guards Van	$8.90
5330	Box Car	$7.49
5347	Cold Storage — Coca-Cola	$9.85
5354	Cattle Wagon	$8.17
5400, 5401, 5402, 5403	Tank Wagons — Esso Shell, BP, Aral	each $7.98
5480	Cement Wagon Bogie	$14.23
5597	Brake Down Crane Set	$56.16
5569	Track Cleaner [4 Wheels]	$12.17
5520	Hopper Car — Operating 8 Wheels	$12.17
6482	Unloader for 5520	$6.10
6484	Dumpable Cargo for 5520	$1.25
	HO ACCESSORIES	
6006	Flexible Track — 1 Metre	$1.90
6057	3-Way Point — Manual	$13.73
6099	Reverse Loop Set	$12.26
9911	Track Layout Plan Book — 6 Colours	$8.00
	N GAUGE LOCOMOTIVES	
'7000	0-4-0 Tank, Metal Body	$28.00
7030	2-6-0 Tank, Black/Red	$42.43
7031	2-6-0 Tank, All Purpose	$42.43
7033	2-6-0 Tank, Industrial Green	$43.68
7160	4-6-0 Tender	$57.72
7161	4-6-0 Tender, Black	$57.72
7170	4-6-2 Pacific	$67.39
7175	2-10-0 Heavy Freight Cab Tender	$71.76
7177	2-10-0 Heavy Freight Tender	$71.76
7178	2-10-0 Heavy Freight Tender, Black	$71.76
7230	Bo-Bo Mixed Traffic Diesel	$42.43
7233	Bo-Bo Express Diesel, New Colours	$51.48
7306	0-6-0 Rack Rail Electric	$46.17
9119	Flexible Rack Rail — 222 mm.	$1.50
7333	Bo-Bo Mixed Traffic Electric	$55.85
7375	Co-Co Tee Express Electric	$62.00
7381	Co-Co Heavy Electric	$62.00
7360	Bo-Bo French Mixed Traffic Electric	$55.67
7361	Bo-Bo French Tee Express Electric	$58.99
7430	Superb Rail Car Set, Grey/Orange	$67.40
7432	Trailer for 7430	$14.97
7969	Track Cleaner, Powered Cleaning Discs	$44.93

	N COACHES	
8051, 8052	German 4 Wheels, Green	each $6.12
8055	Guards Van, Sliding Door	$6.99
8053	Local, Blue/White	$6.99
8054	Local Baggage, Blue/White	$6.99
8056	Branch Line, Red/White	$6.99
8092, 8093, 8094	6 Wheeled Old Time, Green	each $8.42
8100	German Baggage; 8110 1st Class; 8111 2nd Class; 8112 Dining; 8114 Sleeping; 8115 German Touropa; 8116 2nd Class Coach Sleeper	each $9.85
8120, 8121, 8122	Silver Push-Pull Set, Tail Lights, Drivers Cab	Complete $37.48
8160, 8162, 8163, 8169	German Tee Set, Red/Cream	Complete $50.79
8190, 8191, 8192	German Express Set with Baggage Van, Turquoise/Cream	Complete $29.55
	N WAGONS	
8200	Low Sided, 4 Wheel, Brown	$4.00
8201	Low Sided, 4 Wheel, Green	$4.11
8205	High Sided, 4 Wheel, Brown	$4.00
8206	High Sided, 4 Wheel, Grey, Coal Load	$4.00
8230	Container, 5 Removable Beer Cont.	$10.92
8234	Container, 2 Removable Cont.	$7.17
8240	Container, 1 Removable Cont.	$7.17
8281	Low Sided Bogie Wagon	$6.74
8285	Double Deck Auto Carrier with 8 Cars	$12.36
8301	Brake Van with Interior & Tail Lights	$9.24
8320	Refrig. Van Trans Thermos	$5.49
8330	Box Car, Sliding Doors	$6.12
8335	Box Car, Long Wheel Base, Sliding Doors	$8.97
8400	Esso 4 Wheel Tanker, Also Shell, BP, Aral, Eva	each $6.12
8480	Esso Bogie Tanker, Also Shell, BP, Eva, Aral	each $8.73
8500	Dump Car, Operating	$2.80
8520	Bogie Hopper Car, Operating	$7.98
9481	Unloader for 8500	$1.38
9482	Unloader for 8520	$7.48
9484	Dumpable Cargo for 8500, 8520	86c

New ELECTRIC Turntable



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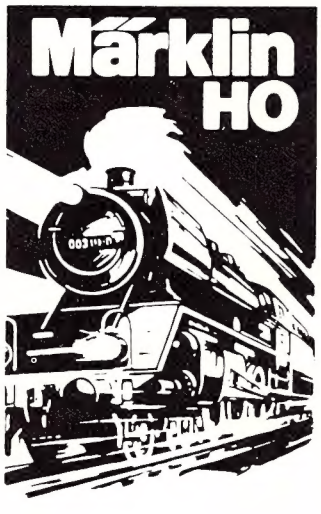

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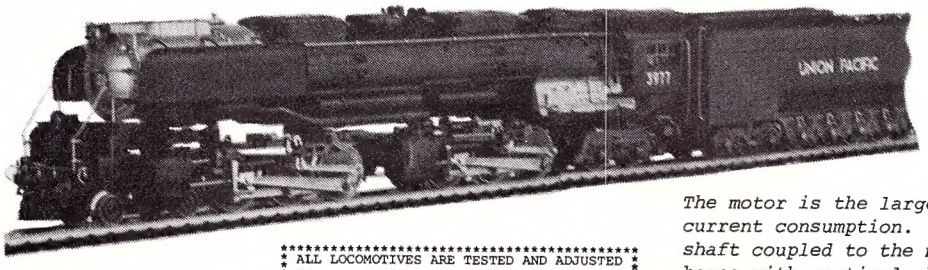

1200 "CHALLENGER" 4-6-6-4 ARTICULATED MALLET LOCOMOTIVE

. . . $145.00

THE SMOOTHEST MOST POWERFUL LOCO RELEASE FROM RIVAROSSI IN A LONG TIME.

The motor is the larger ring magnet type with .5 amp maximum current consumption. Transmission is by way of a horizontal shaft coupled to the motor and linked to horizontal gear boxes with vertical shafts connecting them to a final gear drive to the centre axles in each group of drivers. With a length of 440mm (17") this is a large loco but it will negotiate curves down to 400mm radius.

ALL LOCOMOTIVES ARE TESTED AND ADJUSTED TO FAIR AVERAGE QUALITY STANDARD BEFORE BEING RELEASED FOR SALE.

1218 "MIKADO" 2-8-2 LOCO WITH TENDER

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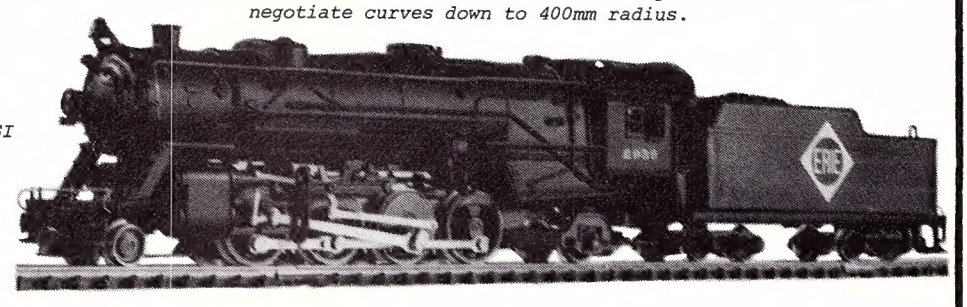
ANOTHER SMOOTH PERFORMER FROM RIVAROSSI

An American classic type of loco for the haulage of freight trains. The model has Walschaert's Valve Gear, a powerful motor & operating headlight. The model is 290mm long. As illustrated but lettered for the New York Central.



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2618	Old Time Combine - A.T. & S.F.	$6.95
2619	Old Time Coach - A.T. & S.F.	$6.95
2716	Santa Fe Combine	$9.50
2717	Santa Fe Pullman	$9.50
2718	Santa Fe Observation	$10.50
2713	Pennsylvania Combine	$9.50
2714	Pennsylvania Pullman	$9.50
2725	Pennsylvania Observation	$10.50
2726	Pennsylvania Diner	$9.50
2732	Santa Fe Diner	$9.50
2741	Pennsylvania Post Office Car	$9.50
2743	Santa Fe Day Sitting Car	$9.50
2746	Pennsylvania Roomette	$9.95
2747	Pennsylvania Tail Car	$10.50
2764	Northern Pacific 'Vistadome'	$11.95
2765	Northern Pacific Roomette	$9.95
2766	Northern Pacific Tail Car	$10.50
2860	Illinois Central Post Office Car	$9.50
2868	Illinois Central Tail Car	$10.50
2870	Illinois Central Roomette	$10.50
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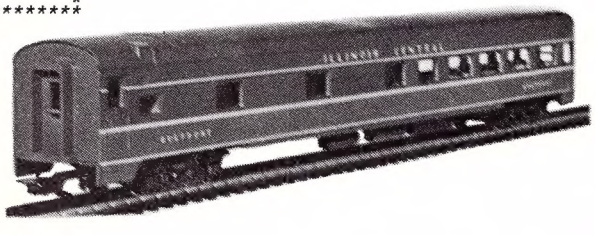

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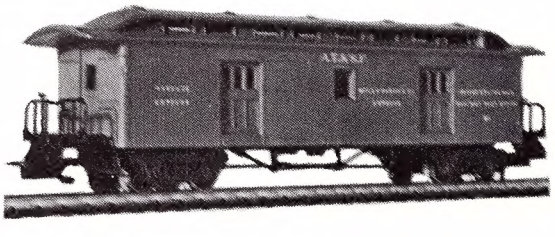

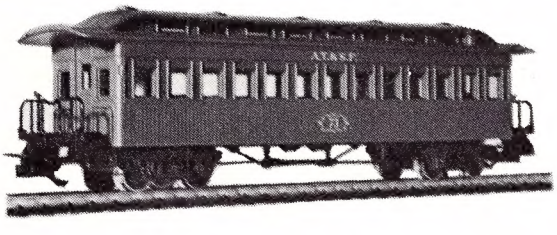

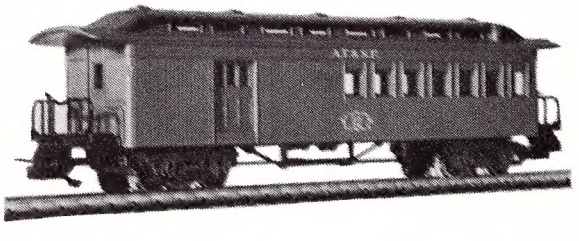

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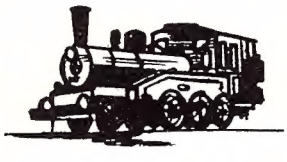

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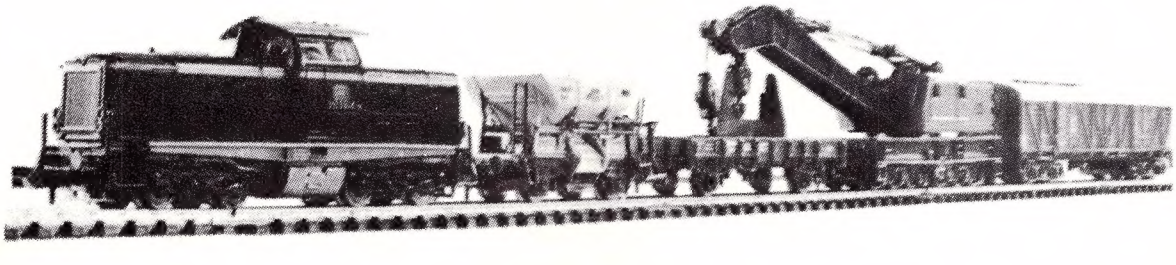

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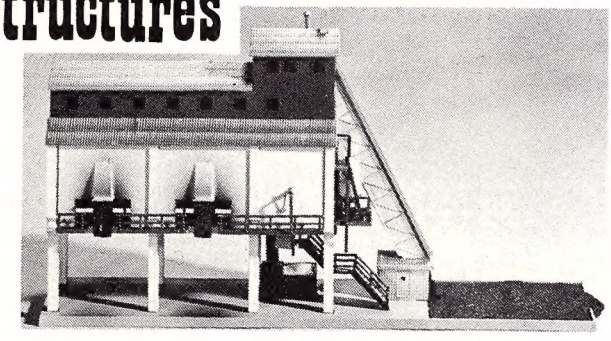

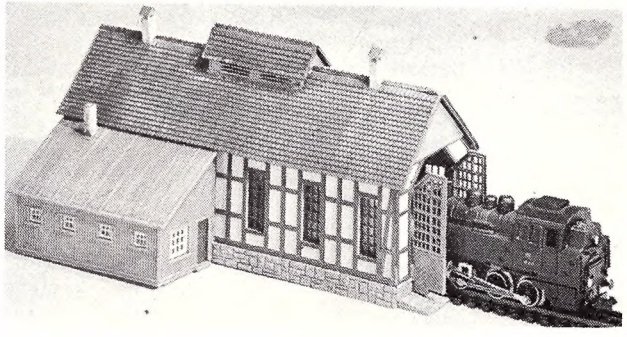

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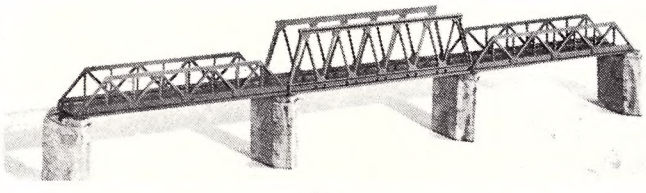

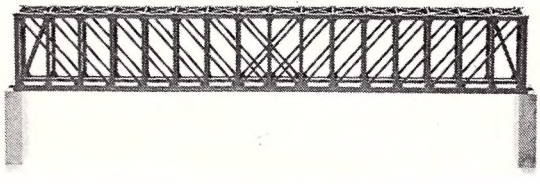

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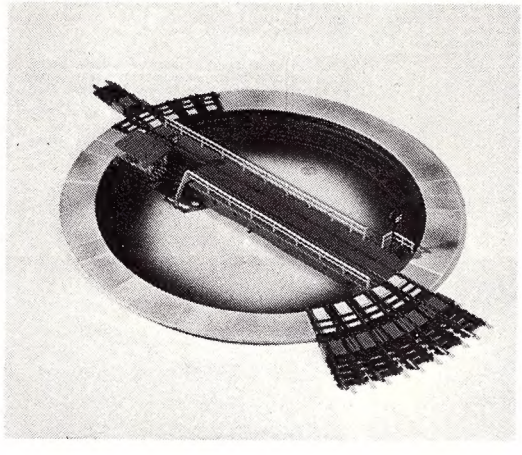

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A.M.R.M.

SEPT/OCT 1977
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AT ISSN 0045-009X

The official Journal of SCMRA in Australia. Incorporating the Yardmaster, bulletin of The Sydney Model Railway Society.

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CONTRIBUTIONS in the form of articles, photographs, club notes, hints, letters to the Editor, drawings or trade press releases are welcome for publication in this magazine. All items received will be acknowledged upon receipt. Please pack photographs between stout cardboard before posting. Indicate whether photographs are to be returned, and if trimming is forbidden.

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DEADLINES: For all copy is as follows:-
September/October 1977 . . . . . 24.8.77

ON THE COVER: South Australia's Port Lincoln Station sees Brill car 101 having its water tanks filled. Photo: Graham Ball.

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COMMENT

We are continually striving to improve this magazine, and to make it equal in presentation ot any produced overseas. We, therefore, consider that a significant change in the title is warranted, and this we have now done.

In its 14 years of publication the magazine has always had the erroneous word RAILROAD in its name. Although continuance under the old name would have no effect (we hope) on sales, we feel that the total Australian outline contents that we are now presenting discourages further use of the Americanised title. This opinion is also expressed by the magazine's parent company, which has endorsed our actions.

The change was not a spur of the moment decision, in fact we have been toying with the idea for a couple of years. Readers, too, over the years have suggested it.

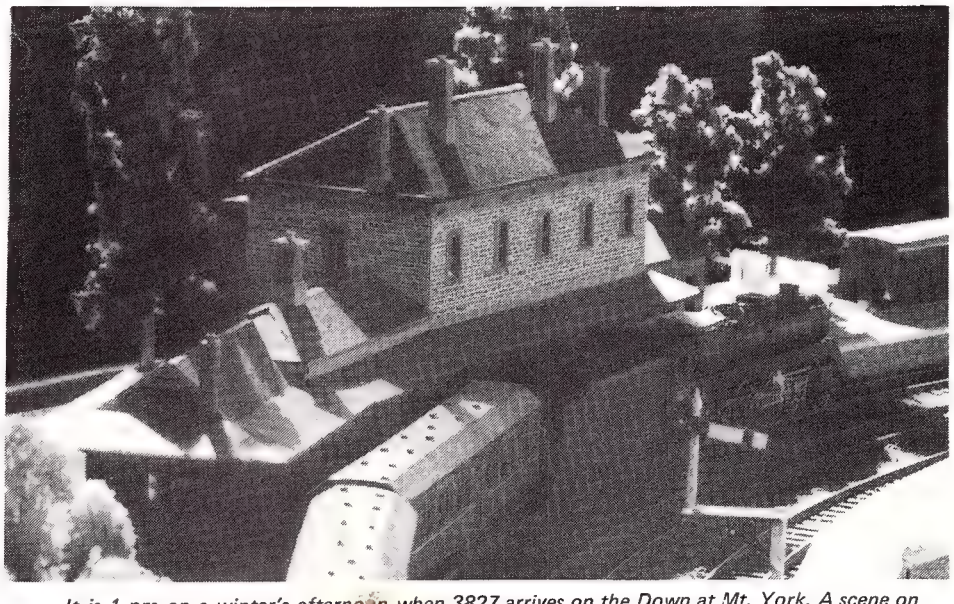
Undoubtedly there will be some who think we have acted foolishly, but then you can't please everyone.

Another point which occasionally crops up is the matter of conversion articles. I have heard it said that "because it appeared in the magazine, that is the correct way of doing it". This is far from the truth, and our authors will definitely agree.

What you read is purely the author's method of achieving a satisfactory result and, as is being currently proven with the Lima 44 class, there are many methods and just as many authors.

The whole crux of this hobby is to pool our resources and know-how to form a general suggestion of methods. In some cases we can read of three different methods, but cannot use any of them. However, by utilising bits and pieces of those three methods we can obtain an end result. Think about it!

Allan Brown



It is 1 pm on a winter's afternoon when 3827 arrives on the Down at Mt. York. A scene on the NSW prototype layout of Kevin Brown. Photo: Kevin Brown.

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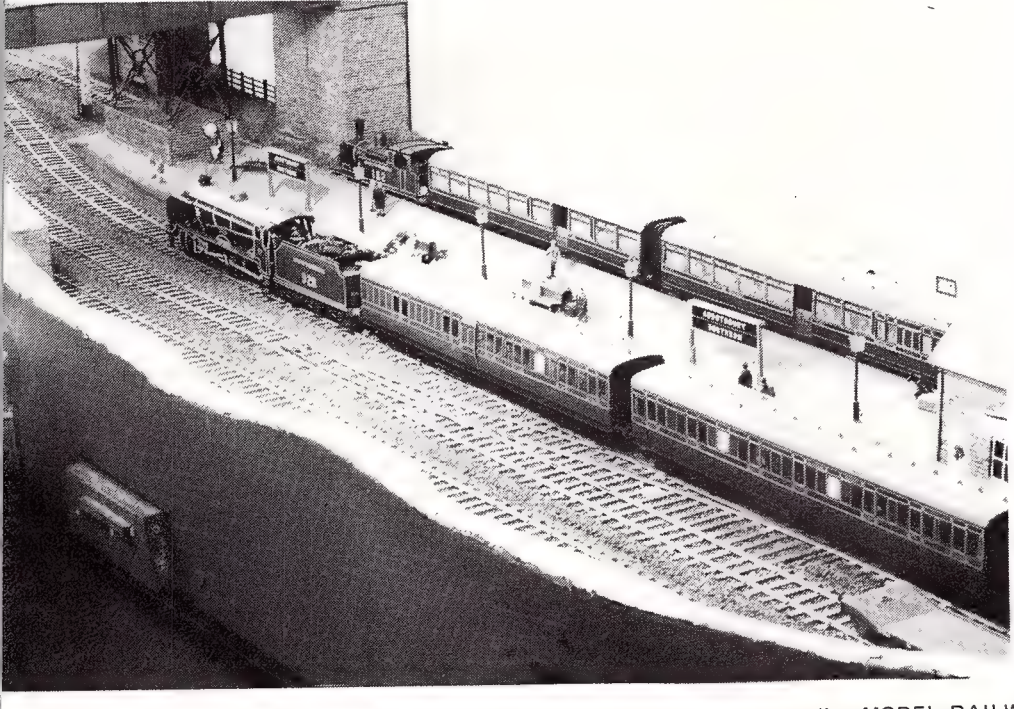
No. 50, M7 class 0-4-4T, crosses Portesham Viaduct with the push-pull local bound for Dorchester.

ABBOTSBURY SOUTHERN

Abbotsbury Southern station. Schools class 4-4-0 No. 928 "Stowe" awaits departure with a through passenger train to Bournemouth while 02 class 0-4-4T No. 182 stands with the push-pull local for Dorchester.



Abbotsbury Southern is the terminus of an imaginary branch of the Southern Railway (England) from Dorchester to the Dorset coast. The model, built to British OO fine scale standards, represents the last few miles of the branch from the small passing station of Portesham East to Abbotsbury as it might have been in the late 1930's. All locomotives and rolling stock are carefully selected to be appropriate to the locality and period, while railway buildings are all models of Southern Railway prototypes. The scene is completed with structures, vehicles and life to give the impression of the Dorset Downs in summer. Hand laid track and a carefully designed control system ensure reliable operation at scale speeds, all movements on the layout being strictly in accordance with prototype practice. An off-scene traverser is used to store trains when not in use and represents the "rest of the railway".

Phil Knife

LINESIDE INDUSTRIES

Do you live near an area that has an unique lineside industry that may be of interest to A.M.R.M. readers? If so please drop the A.M.R.M. office a line, briefly describing the industry, so that a complete coverage can be arranged.

Editor

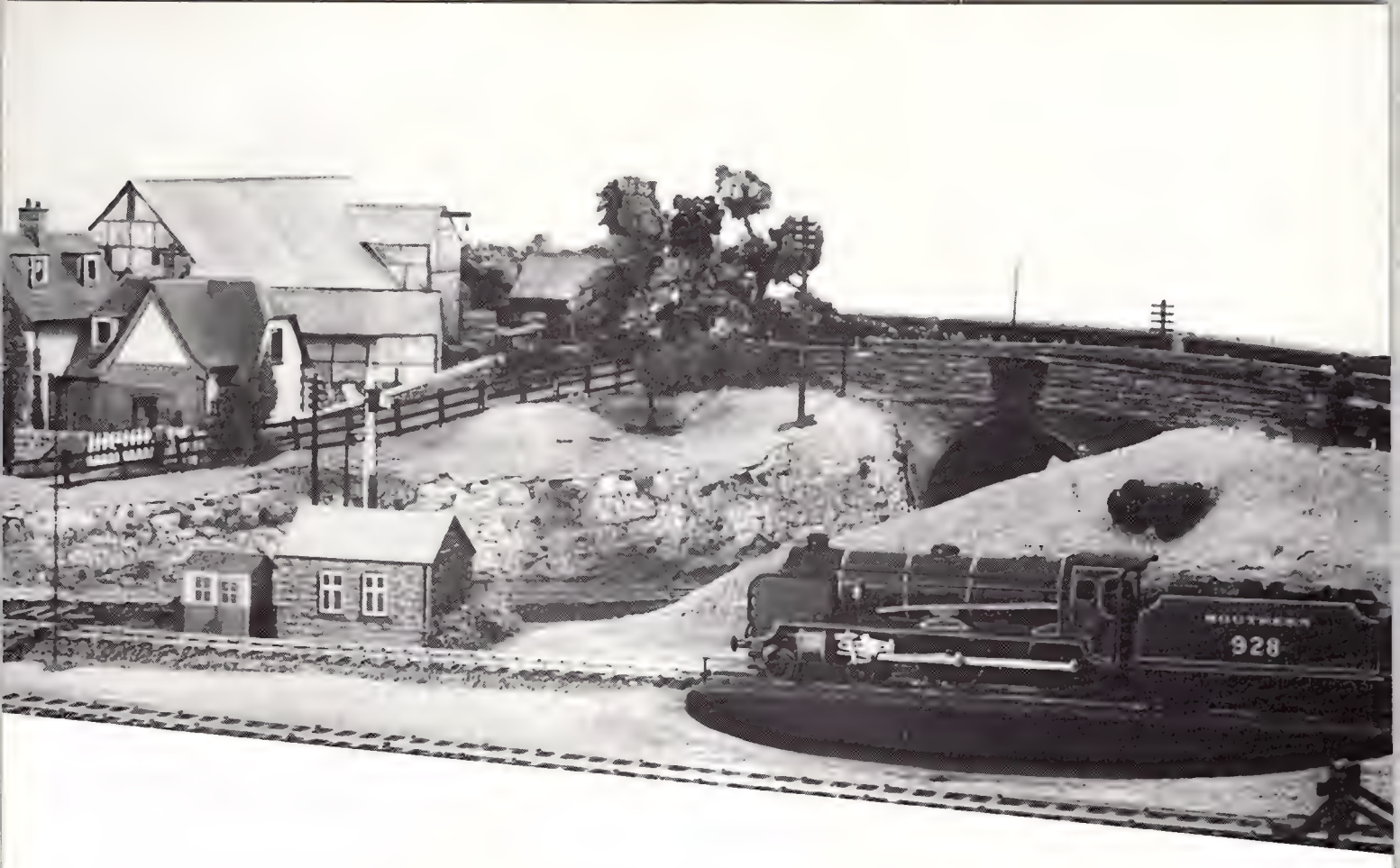
TRADE PRACTICES ACT 1974

The above act is now in force and contains strict regulations on advertising.

It is not possible for this company to ensure that advertisements which are published in this magazine comply with the Act and the responsibility must therefore be on the person, company or advertising agency submitting the advertisement for publication.

In case of doubt consult your lawyer.

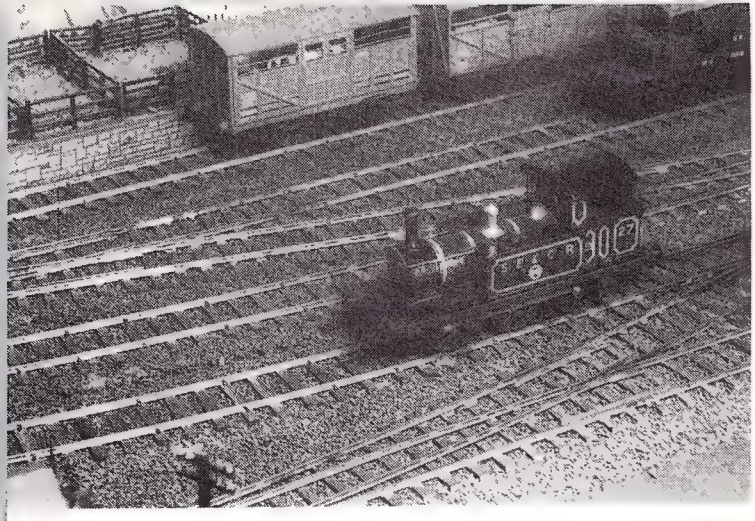
S.C.R. PUBLICATIONS



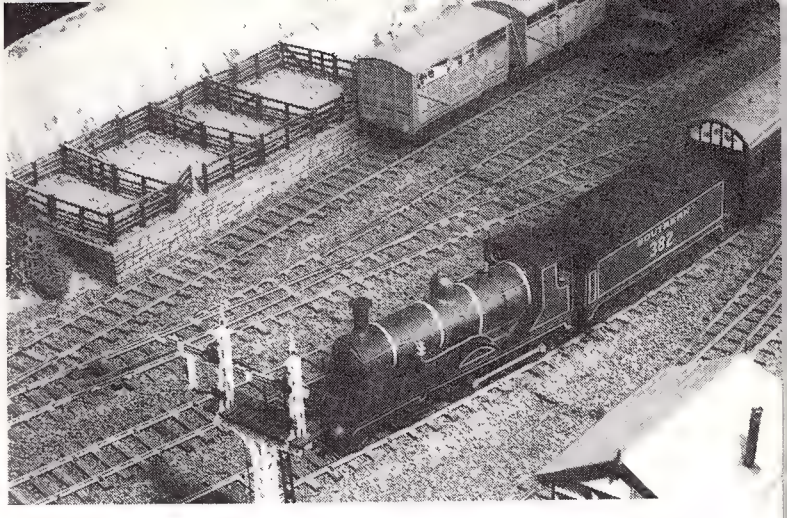
The approaches to Abbotsbury, with the turntable in the foreground and the farm behind. The loco on the table is Schools class 4-4-0 No. 928 "Stowe".

An overall view of Portesham East. M7 class 0-4-4T No. 50 gets a clear signal for departure with the local passenger train to Dorchester. Part of the traverser is visible in the immediate foreground.

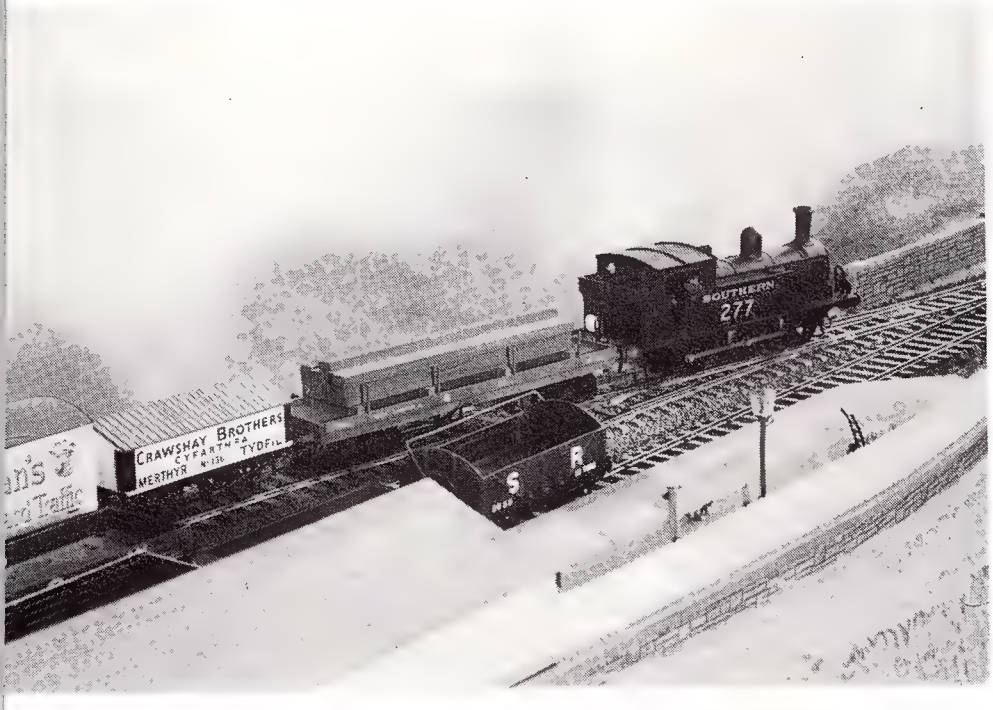
The branch goods train, headed by 0-6-0 No. 700, crosses over the roadway at the entrance to Portesham East station.



A visitor to Abbotsbury from the Bluebell Railway — P class 0-6-0T No. 27 in full SECR livery.

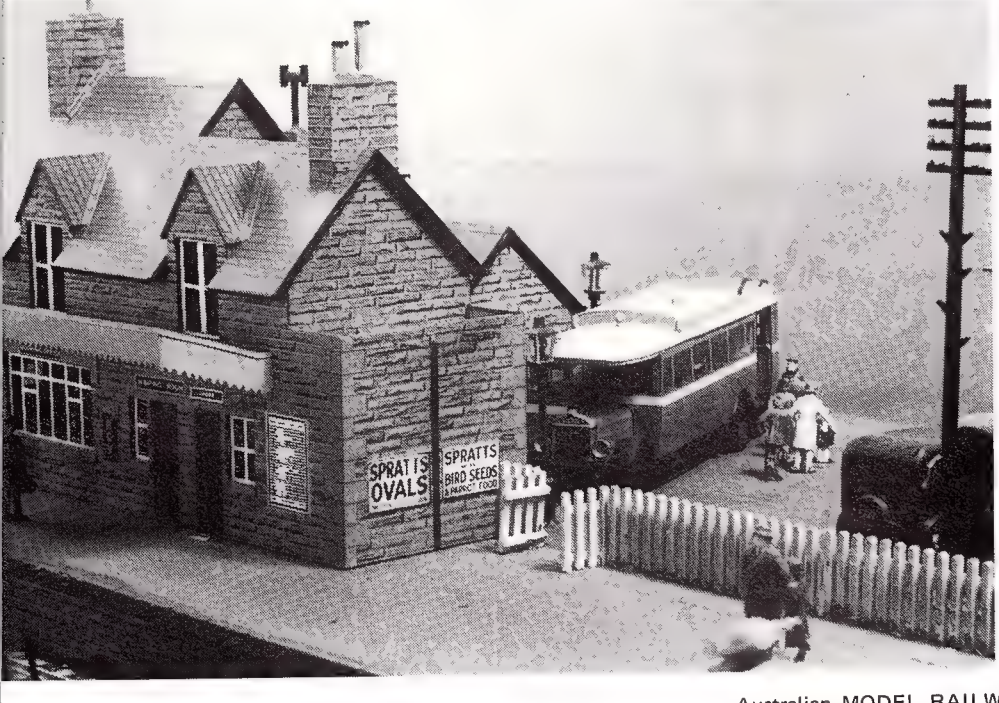


K10 class 4-4-0 No. 382 passes the Abbotsbury goods sidings with a parcels train arrival. This loco is scratch built, mainly from styrene sheet and card, with a brass boiler and chassis.



G6 class 0-6-0T No. 277 shunts some wagons in the goods yard at Portesham East.

Abbotsbury station building and the road entrance behind. Passengers who have just arrived on the train are boarding the local bus on their way home.



PASSENGER OPERATION

Passenger train operation on many layouts, can, in most instances, be very boring, for most are operated as a block train, and simply run between point A and point B. Very rarely are they remarshalled during a journey. This unfortunate facet is probably due to the eminence of the larger 'glamour express trains' which seem to capture the imagination of most people. These trains run between destinations and usually run the return journey without being broken up for they are a 'set' of cars, whether a fixed or flexible consist. Unfortunately the larger expresses are not at home on small layouts, although one can usually see a Indian Pacific on a 8' x 6' layout at any exhibition.

Unfortunately the coverage by magazines and historical journals of smaller trains (i.e. Mail, Paper, Mixed) is rather small and, as such, most modellers are completely unaware of the many movements of passenger trains that are most interesting and can be applied to model operation. If some of these prototype operations were implimented to model format passenger train operation would be as interesting as goods trains, and the two would make realistic timetable operation possible and more interesting.

Many of the 'night' trains, as mail and paper trains were, had engine changes as the load increased or decreased. The consist of mail trains in particular included some unusual vehicles that had equally unusual movements, but unfortunately these vehicles are no longer in service. The NSWR 'ACM' branch line sleeper and the 'CHO' brakevan along with the 'HKL' are just three of the vehicles that have been withdrawn from service in recent years.

Obviously many of the prototype trains in full length are too big for most layouts, but as mail trains (particularly in NSW) operate as small units in country areas, they give suggestion to model operation, and are within the scope of most modellers.

To assist modellers with details on passenger trains, upon which model operation can be based, A.M.R.M. is preparing a number of small articles which will briefly cover the format and movement of mail trains in N.S.W. In each instance, full reference will be to the prototype, for this is the only accurate method of train operation, but some errors will no doubt occur, and as we do not want to fill MAILBAG with prototypical debates we request knowledgeable critics to curb their urge to write to MAILBAG. Obviously we welcome any corrections of mistakes, but they will not be debated. The articles will be published as space and research permits.

Bob Gallagher

MODELLING PROJECT

N.S.W.R. 'KF/CKF' Flat Wagons

A lesson in elementary styrene modelling by Jack Fotheringham.

THE PROTOTYPE

Modellers of the New South Wales Railways would probably be aware that the U wagon has many deriviatives: this issue's plan details two members of this family. Those people working in HO scale can use the readily available K type wagon underframe as the basis for their KF/CKF models.

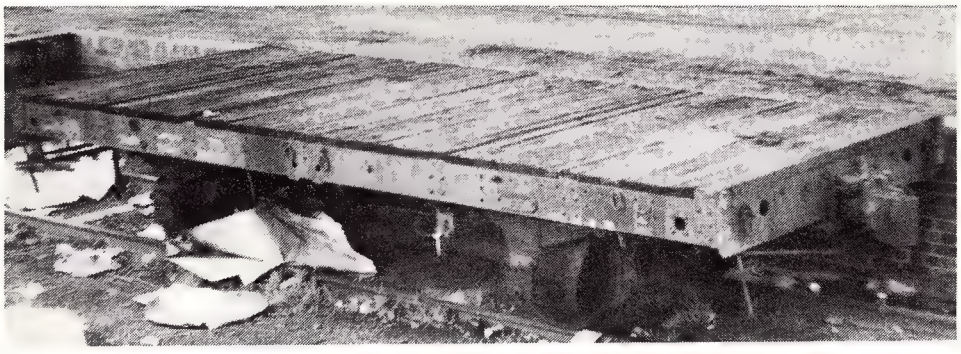
The KF wagon is a four wheeled flat car which came into being during the 1940s. During the post-World War 2 period, additional vehicles of this type appeared in traffic. These flat cars were converted from K, KG and U type open wagons; in their rebuilt state, they had a capacity of either 20 or 26 tons. Although originally intended for the transport of military equipment the KF cars became standard flat wagons in later years.

The CKF wagon appeared during the early 1970s: this design is the KF layout modified to accept a 6.1m container. Early CKF wagons had steel sections placed on the perimeter of the deck to secure the container; later models were fitted with the conventional twist lock mountings.

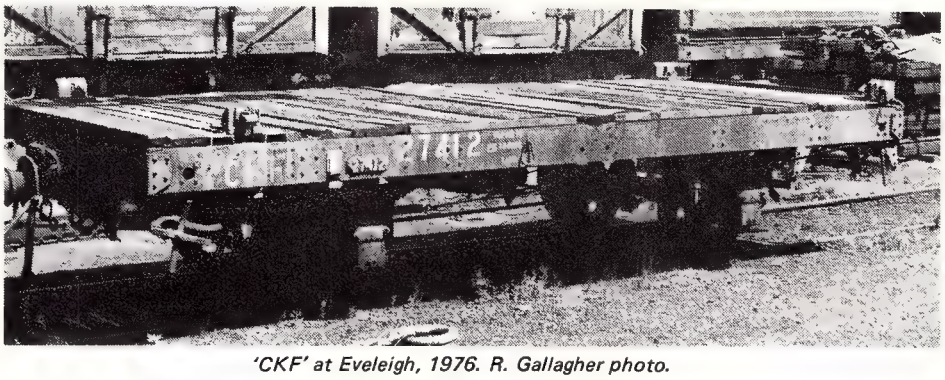
At first glance, the relatively recent introduction of a four wheeled container wagon appears to be out of harmony with the concept of a freight system based on modern bogie vehicles. However, the CKF wagon is useful under certain conditions.

One working which has seen the CKF unit employed successfully is the round trip operation of refrigerated containers between Gosford Abattoirs and Darling Harbour. Initially, these containers were moved in pairs on OCX/OCY class wagons, or singly on the shorter bogie units. Although this method allowed loading and unloading of containers by fork lift truck, it was wasteful on vehicles as maximum capacity could not be achieved. (Refrigerated containers usually have an overhanging bracket at one end to support the compressor; this restricts the number of containers able to be placed on a particular type of wagon. For example, although the OCX/OCY vehicle will take up to 3 insulated, side loading or ventilated units of 6.1m length, only 2 refrigerated units of this size can be accommodated).

To solve the problem at Gosford, a portable loading platform was constructed and used in conjunction with the CKF vehicles. This platform, which is able to be moved by fork lift truck, has clamps for attachment to the rails.



N.S.W.G.R. 'KF' flat wagon at Liverpool, 1973. R. Gallagher photo.



'CKF' at Eveleigh, 1976. R. Gallagher photo.

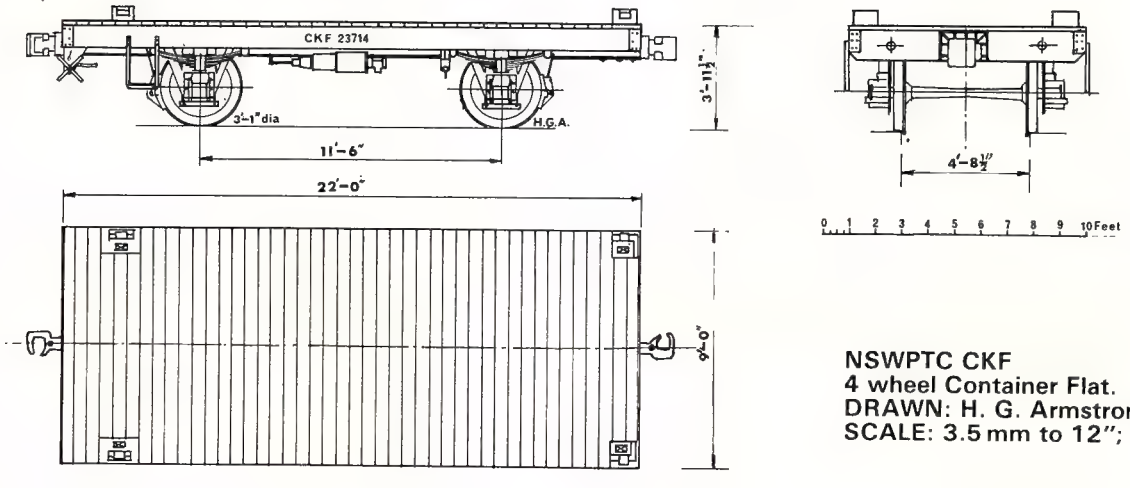
The use of the four wheeled container wagons, with their maximum service speed of 65 km/h, presents no disadvantage as the return journey between the abattoirs and the docks is only about 170 kilometres. Thus, the CKF wagons released the bogie container units for more effective use elsewhere.

A list of KF and CKF wagons is given below. Readers should note that this list is a selection of vehicles in these categories. The KF segment is drawn from vehicles in service during the last 20 years; the list of CKF wagons is at April 1977 and includes some vehicles of this type in traffic at that date.

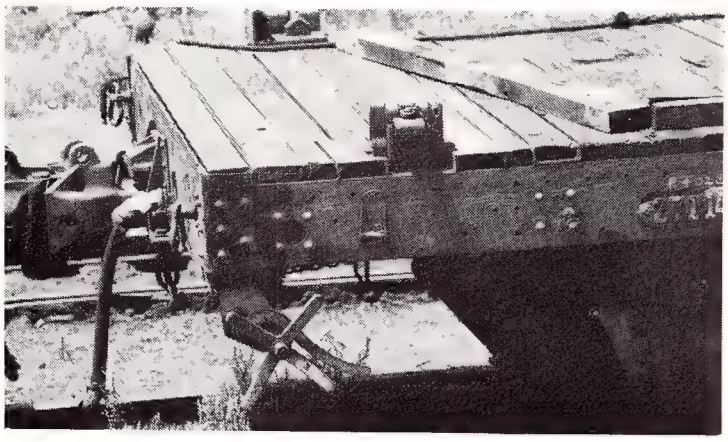
KF (20 tons capacity):
1542, 3580, 3743, 4649, 5339, 6064, 7561, 8848, 9259, 11199, 11659, 11993, 12665, 22649, 22662, 22733, 22749, 22774, 22843.

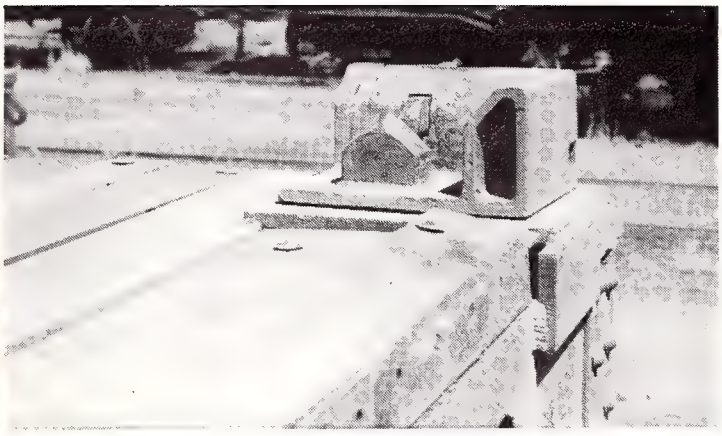
KF (26 tons capacity):
981, 1418, 1540, 1833, 2477, 2718, 2738, 3007, 3257, 4029, 4446, 4742, 4876, 5004, 5452, 5608, 5783, 5861, 5992, 6101, 6393, 6463, 6616, 6648, 6757, 6980, 7257, 7259, 7317, 7359, 7983, 8185, 8258, 8259, 8273, 9515, 9528, 9619, 9633, 9637, 9650, 9676, 9681, 9701, 9778, 9872, 10090, 11023, 11614, 11650, 11861, 11875, 11969, 12157, 19099, 19399, 19433, 19520, 20437, 22520, 22521, 22523, 22524, 22527, 22531, 22532, 22533, 22615, 22635, 22652, 22694, 22696. 22751, 22758, 22767, 22772, 22787, 22797, 22822, 22826, 22833.

CKF:
26794, 26873, 26892, 26939, 26942, 26943, 26951, 26956, 27405, 27412, 27469, 27611, 27628, 27725, 27051, 27082, 27114, 27130,

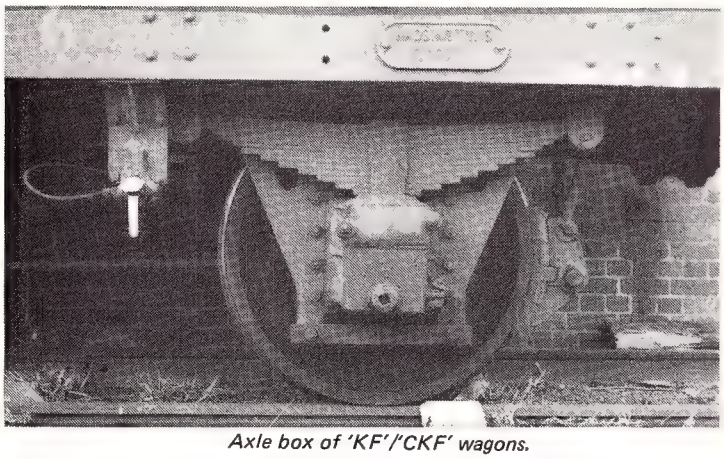


NSWPTC CKF
4 wheel Container Flat.
DRAWN: H. G. Armstrong.
SCALE: 3.5 mm to 12"; 87.1:1

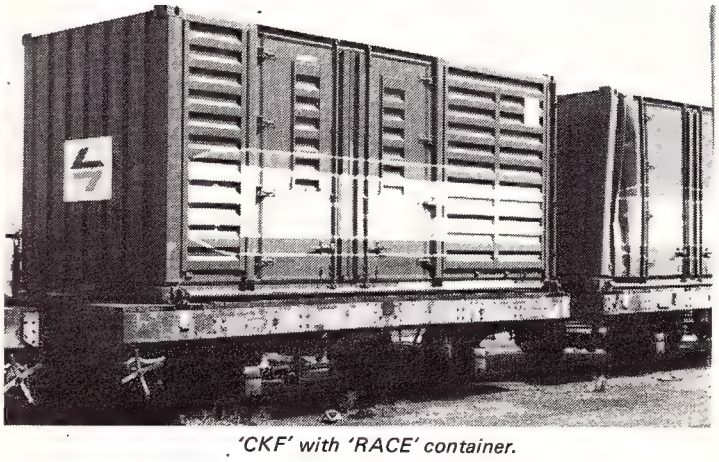




The above two photos show the placement and detail of the container holding lugs.



Axle box of 'KF'/'CKF' wagons.



'CKF' with 'RACE' container.

27142, 27146, 27383, 27301, 29973.

Livery:

As far as can be ascertained at the present time, all KF and CKF wagons have only appeared in the standard freight scheme of black or dirty grey.

References:

Carrying Capacity of Goods Wagons, Coal Hoppers, Horse Boxes and Motor Trucks, dated July 1955. (N.S.W.G.R.)

N.S.W.G.R. Weekly Notices — 1966 (various issues)

A.R.H.S. New South Wales Digest (various issues).

N.S.W.P.T.C. Revenue Earning Return (2.4.77)

Acknowledgements:

Public Transport Commission of New South Wales; John Forsyte; Trevor Moore. Notes were prepared by Paul Rogers. Plan was prepared by Howard Armstrong.

THE MODEL

For construction of this model I prefer to use styrene, although it will be appreciated that the end result will produce a light wagon and may have to be weighted in some way. Alternatively, those proficient in metalwork may prefer to build it in brass or nickel silver. Nevertheless, my method is in styrene and it is in this that I will describe. These notes refer to a HO model but the principle can equally apply in all scales.

Components required are .040 and .030 styrene, PMH Products RU underframe, metal wheels (if preferred) and couplers of your choice — I used KaDee No. 5's — plus associated modeller's tools.

CONSTRUCTION

Possibly the most tedious part in constructing this model is the scribing of the decking. One can always use pre-scribed materials (Northeastern timbers, Slater's embossed styrene, etc.) but doing it by hand is a good exercise and I recommend this method over the others. The tool I used for the actual scribing is the Olfa P-Cutter (reviewed Nov./Dec., 76 AMRM). Other scribing tools will suffice.

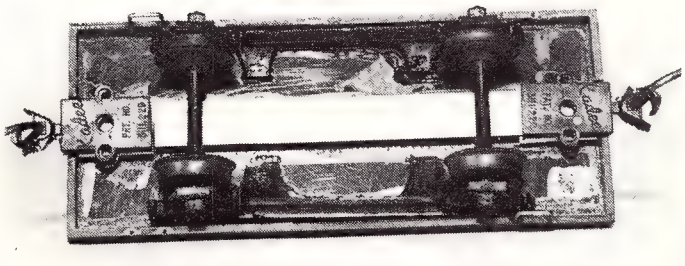
Now to the actual construction, and this commences with the scribed decking. The deck is 22' by 9', to be scribed to represent 6" planks. I used .030 styrene. Undoubtedly, the time taken to make one wagon alone is not worth it therefore it is just as easy to make 3 or 4 in one hit. If the required number of decks are marked out on the styrene side by side with the 6" decking timbers also marked, it is a relatively simple job to scribe them all as continuing lines, using the Olfa and a good square. Once this job is completed the decks can be separated and a centre line marked on the underneath of each one.

Next on the agenda is the sidebars and buffer beams. These are 9" high all round and sit on the outer extremities underneath the decking. Before cutting the .030 styrene to this height make sure you have at least one working edge of this particular piece of styrene smooth and flat. This will give you a sharp 90 degree angle to the decking when glued in place. The job can be filed and sanded smooth once the glue has set. I use MEK for all styrene work.

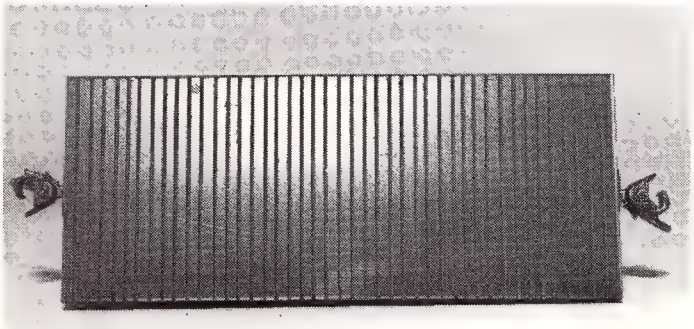
We now turn to the underframe. The PMH unit has two bars across the top to brace the actual sideframes. We have to remove about 3' from the centre of these bars. This is a job for the razor saw, although it is possible to chop it out with your craft knife. Before you do, however, may I suggest that you test the underframe for flatness. It is possible to strike one that is a bit lop-sided. Naturally the lower side will have to be packed later.

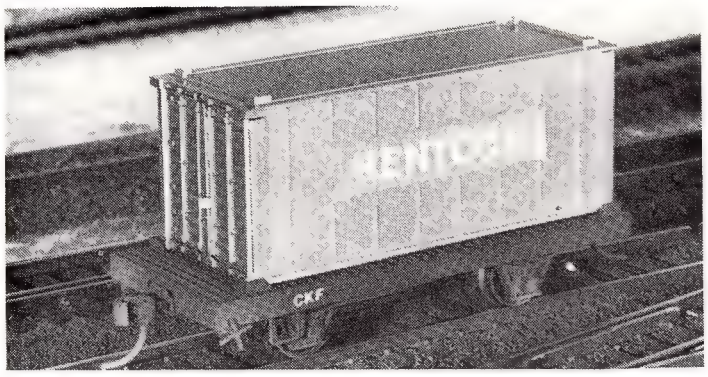
Now comes the choice of wheels. Although the plastic ones that are supplied are quite suitable, I prefer, because of the lightness of this wagon, to use metal wheels (10.5 mm) thereby giving the wagon a lower centre of gravity. Whatever the choice now is the time to do a dry run, combining the sideframes and the wheels. If you are able to hold the whole thing steady and are satisfied with the positioning, mark a few obvious spots on the decking (underneath, naturally). The aim of this is for ease of positioning when glueing.

Underbody of a 'KF'/'CKF'.

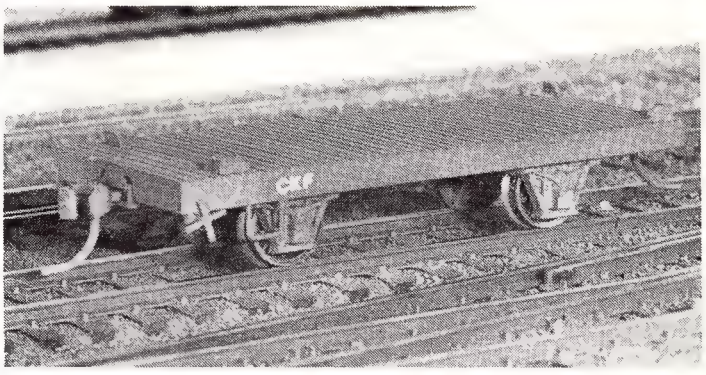


The deck of a HO scale 'KF' or a 'CKF' before container lugs are attached. A. Brown photo.





HO scale 'CKF' with container in place.



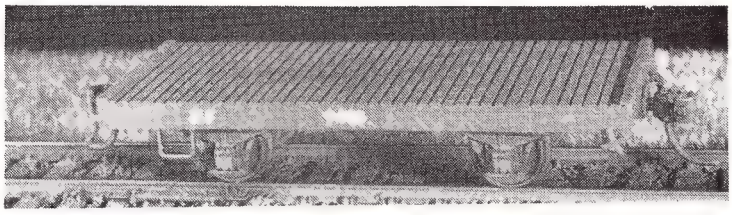
Completed 'CKF', fully weathered awaiting final numbering.

Give the whole of the underneath of the decking a going over with sandpaper, making sure not to erase the markings. This is to give the glue something to bond to.

Glue one side of the sideframes in place — don't forget about the possible lop-sidedness! (If you've got one, glue the tallest side in place first, and don't forget to pack the second one when glueing it.) For this part of the job I used 5 minute Araldite, mixing only enough for what was required. Let this sideframe dry thoroughly. Next, sit the wheels in position and glue the second sideframe in position (packing?). Let this dry thoroughly.

On the prototype the centre beams are two parallel "I" beams. However, as we will not see these on the model I prefer to make the whole centre beam solid for rigidity. For this I used .040 styrene cut 1'6" wide. The first layer (directly onto the underneath of the decking) runs the full length. The second piece is shorter than the first by the length of two KaDee coupled boxes. If everything is according to schedule the first piece will give you correct coupler height.

The width of the coupler boxes can now be marked on the buffer beams and such beams cut down to the depth of the first layer of the .040 beam. This piece is then removed and the couplers mounted permanently.



Model of a KF. Photo by G. Ball.

The ancilliary equipment (brake cylinder, steps, handbrake, etc.) can now be located. Steps are fabricated from staples, brake cylinder was found in the goodied box, but I believe ProType make one.

This finishes the actual wagon. If you stop here you will have a KF; but we'll proceed with the CKF. The last job to be done is to make and affix the container holding brackets. Contrary to what one would assume the container does not sit equi-distant from each end but more so to one end. To get dead scale for the brackets is virtually impossible, so I cribbed a bit. Place the appropriate container on the wagon, as indicated in the plan, and mark the corner positions. The actual L shaped brackets I made from .020 styrene. They measure around 9" long by 4" high or so. They don't look too bulky once the container is in place.

All that is left to do now is to paint and code the wagon and there you have it, a simple and quick one evening project.

Jack Fotheringham

BOOKS

Reviewed by John Bevan

Last issue I wrote about the location of layouts in houses and recommended a book which would assist the modeller in finding a place for his layout. This time I suggest a book which will provide ideas on the design of layouts. The book is 'Track Planning for Realistic Operation' by John Armstrong.

Any person who has read 'Model Railroader' magazine over the years will most probably be familiar with the author's name. He is a regular contributor of articles on the subject of layout operation. The articles often describe operation on his 0 scale layout of massive size the 'Canandaigua Southern'.

This book is typical of the Kalmbach publications on practical railway modelling (I have written about other books) as it is large in size and well illustrated with photographs on glossy paper.

The author has divided his book into two sections. The first is titled 'Operation, Prototype Style' and contains four chapters. The second section contains seven chapters and is titled 'Miles of operating satisfaction on feet of track'. Although John Armstrong has written about United States prototype operating procedures in the first section and uses American terms throughout, this part of the book still has a lot to offer the Australian modeller. The first chapter deals with the loading and unloading of rolling stock, that is with the source of loads for both passenger and goods traffic. In this country, like the U.S., goods traffic originates and terminates at some type of an installation. Armstrong talks of industry tracks, freight stations, team tracks and piggyback loading areas. Australian railways have the same facilities, called private sidings, goods stations, and goods yards. The functions and basic layout are the same.

Next, Armstrong tells how trains are made up and moved over a railway. He describes the various types of yards that exist and how to condense and fit them onto your layout. He also describes the provision of loops on single track. The final chapter in section one is about service tracks, that is engine terminals, coach yards and repair workshops. All the information in this part of the book although orientated towards U.S. practice is usable by the modeller in Australia who wishes to model the local scene. The details and names change but the principles remain the same. If you carefully read this part of Armstrong's book you will know what things to look for when looking around local railways for ideas for your layout.

The remainder of the book is directly concerned with layouts. The methods of layout construction are beyond the scope of the book. Armstrong talks of track standards and develops the idea that the modeller must have a set of standards which suit the particular situation. Standards here do not mean details of track gauge, wheel standards etc but curvature, grade, and clearance standards. The average modeller would be silly to try to develop his own track and wheel standards; it is better to use one of the developed systems. Remember here that a wheel and track standard system is a system and works best if not intermixed with other systems.

Chapter Six is about layout location and shapes. Armstrong sets out what he considers to be reasonable access standards for a layout and warns against building too big a layout. I find that every modeller dreams of the giant layout which accurately and completely models his railway, but these layouts are rarely finished and often have operating problems. The nicest idea I found in this chapter is the double-deck layout. I have often tried to develop this idea into a plan for the layout I will some day build.

The remainder of the book has three chapters on the design of a layout to suit your needs, the development of this plan into a workable main line and the detailing of this main line with sidings, yards and all the other details needed for reality. The opening part of Chapter Nine has an idea for the construction of a deviation around a bridge under construction; a good idea for a layout. Chapter Ten covers the development of an idea for a layout into a complete track plan. Chapter Eleven is nine track plans ranging from the shelf shunting layout to the layout requiring a space 30 by 55 feet.

If you want to do more than run your trains around a circle at high speed and want to try to imitate the workings of a real railway then this book will help you.

'Track Planning for Realistic Operation' by John Armstrong. Published by Kalmbach Publishing Co Milwaukee U.S.A. 1975. Retail price about $4.20.

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MODELLING SHEEP PENS

..... by Phil Jeffery

Galah! The name lept from the map. I looked again and it was still there. Another item also caught my eye – Galah was shown as having a railway station, and only 10 miles west of Ouyen.

Being in the area on holidays I decided to go and see what was there – two railway houses, a passenger shelter, grain silos and sheep pens. As I am always on the lookout for different structures the sheep pens immediately grabbed my attention.

Sometime later I decided to build the pens; the only problem was – no measurements! Going back to Galah was out of the question, so I went to Yea. The sheep pens there are quite different but I figured that the gates had to be a similar height to provide access to all V.R. sheep wagons.

Using these measurements, the photos and a sheep (I used Airfix ones to give me large woolly merinos) working drawings were soon under way. The main wood sizes were worked out in terms of available Northeastern wood sizes. Ramps and yarding sides are 6" x 2" (1/16" x 1/32"), main uprights 6" square (1/16" square), other uprights 6" x 2" (1/16" x 1/32"), cross bracing 6" x 2" (1/16" x 1/32") and the ramps 6" x 2" and 3" x 2" – see drawing. I cheated and used some 1/32" scribed siding 1/32" thick. If you are game enough you can use 1/16" x .020" for the 6" x 2" and 1/32" x .020" for the 3" x 2".

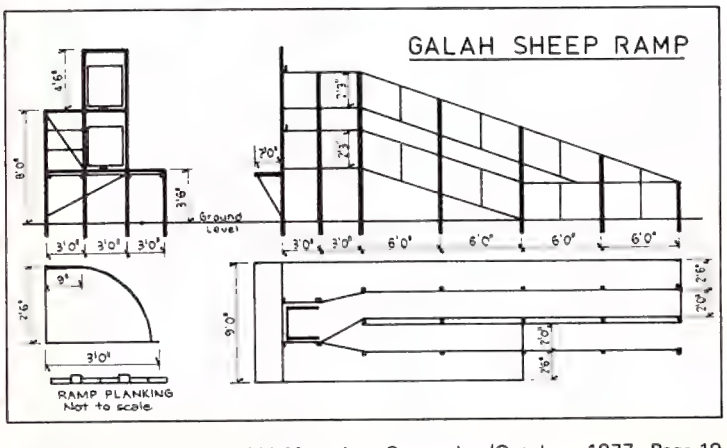
I started building from the middle, in that I started on the ramps first. Waxed paper was put over the drawing and full height uprights tacked in place; planking was then added. Allow 1/32" on each of the end uprights for the planking from the yards and gate areas to be glued on.

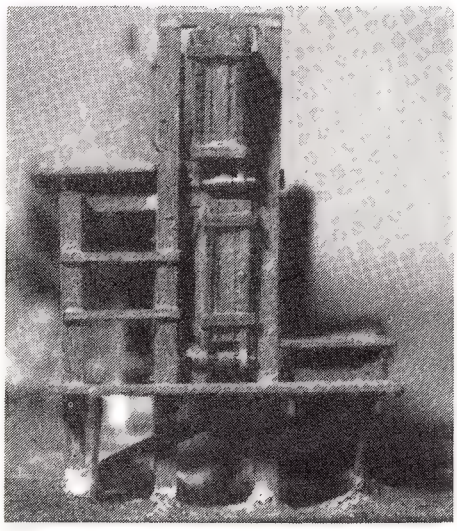
This first side was (looking from the track) the upper left. The middle was started similarly but this time I put the lower planks on, took the resulting side from the plan, turned it over and put on the upper planking.

The photographs above and below, by the author depict the V.R. sheep race.

The doors on the model actually drop into place.

The door detail on the V.R. sheep race.





The door detail on the model.

The HO scale model in place on the layout. B. Gallagher photo.

The above photo shows the sheep being herded into the pens by the shepherd and his dog. B. Gallagher photo.

For the final side the planking was cut out to size and tacked to the plan, then the uprights added. 3" square (1/32" sq) capping strips were then added to the top of each of the ramp sides.

Cut notches in one side of the long strip to correspond with the uprights on the centre run sides' for the upper ramp. Measure 2'6" from the same edge and cut out holes for the other run side uprights to fit through. Line up the second ramp side carefully or you will have trouble.

Glue the ramp floor to the centre 'run sides', holding it as squarely as you want your ramp to be. When dry, cut a 3" x 2" bracing strip the length of the ramp and glue it onto the uprights to hold that side of the ramp in place. Push the uprights of the second side through the holes in the ramp and glue into place. I used a couple of sheep to hold the ramp sides the correct distance apart.

This time cut three bracing strips, one to go on each side of the uprights and the third for the outer edge of the walkway.

Repeat this procedure for the lower ramp, then put in the horizontal and diagonal braces (3" x 2") to hold the lot together. Note that there are no planks on the 'floor' of the ground level portion of the lower ramp.

Next comes the most awkward bit of the whole project — the area where the ramps converge at the loading gates. I suspect that I did things the hard way! Starting with the straight section I built up the lower ramp with walkways and ladder. The bracing between the lower gate and the ramp was then put in, the flooring put in and the sides built up.

The upper gate was built along similar lines — the outer supports for the walkways will need to be put in place last of all.

A bit of insanity was next. I decided that I wanted the gates to operate. Build up two gates to fit the openings. If your ramp has been built to the correct sizes the gate sizes in the plan should be O.K. To make the hinges I bent up two 1/32" wide strips of 10 thou. brass for each gate, allowing for the hinge pin at the pivot point. Put the pin in place — I used some fine brass nuts and bolts — squeeze the brass around the pin then super-glue the brass to the gate. Repeat for the other one. Cut some more 10 thou. brass for the hinges, bend around the hinge pins and then, without gluing everything up solid, attach the gates to the ramps themselves. If you have any friends who build in N scale perhaps one of them can be persuaded to do this bit for you. The walkway at trackside can be added now — 6" planks and 3" x 2" braces.

That's all of the hard work over. I use Caneite as a sub-base for all of my buildings, so a piece 12" x 18" was cut out and the ramp and gate assembly was glued onto it. I should have used the sub-base from the time I finished the ramps as this would have held everything in its correct position for assembling the gates. It would, however, make some of the braces a bit harder to position.

On the same piece of Caneite the size of the individual pens were marked out, with uprights every 6 feet. Fencing was made up to suit using 6" square (1/16") uprights and 6" x 2" (1/16" x 1/32") railing. All uprights for the model were made long enough to push into the "ground".

Gates were also made up and then the yards assembled onto the Caneite base.

As my sheep were herded to the railway on foot no unloading ramp was constructed. If you wish to build one, go to it.

Stain all of the wood. I use Floquil Grime, slopped on. This method allows for plenty of variation in colouring of the wood.

Scenery was put in, under and around the pens. Add your sheep, a sheep dog (mine is a Merten police dog), a drover (a Merten mechanic) and your drover's means of transport then it's all done. Install your pens into the layout and start shipping those sheep around your layout.

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SOME OF MY BEST FRIENDS ARE BOOKS

Books and magazines are among the highly prozed possessions of most modellers.

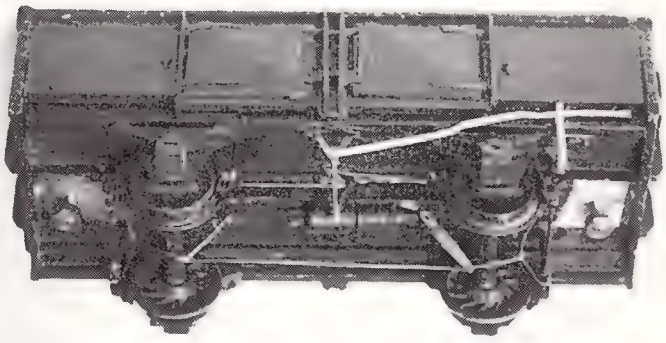
Looking around the shelves of some of the older (more mature/senior, — take your pick) members of our hobby, I see neat stacks of Model Railroaders, A.M.R.Ms. and so on, usually accompanied by some V.R. Newsletters and Railway Transportations. I am sure that these collections are not just those of 'bower-birds' because we know the modellers concerned better than that. No, these books are well used because they are prized references. For example, when I started my roundhouse/turntable project, the three chief sources of information were 1946 Model Railroader, 1956 V.R. Newsletter and 1968 Railraod Model Craftsman.

I suppose that most of us, when not in the mood for the layout, derive much pleasure from sitting down with some old books or magazines and just browsing.

Ian Weickhardt

BRAKE RIGGING

Phil Curnow shows how to add brake rigging to four wheel rolling stock.



GY2018 was photographed at Pinnaroo in November 1973. In the top photo you can see that the valves on the end of the brake cylinder are to the left of the wagon with the ground throw lever going to the right. The diagonal yellow line at the right hand end means the wagon is grain proofed while the white square beneath it indicates that this is the brake lever side. The bottom photo shows the other side as indicated by the lack of white square. There are no inside brake shoes on this side so making a total of six for the vehicle.

Most scratchbuilt fourwheelers that I have seen look particularly 'bare' around the wheels compared with the prototype. I soon realised that they needed brakeshoes and cylinders which are normally clearly visible from trackside. An additional feature on many VR classes is the ground throw lever so I'll describe my attempts to fit brake rigging to the GY and the U class wagons as both of these were produced as kits.

Rather than make my own brakeshoes I bought Central Valley which are slightly overscale but cheaper and more readily available than suitable Kemtron shoes. The CV shoes are designed to be fitted as a detailing extra for the CV range of passenger bogies and are swung on thin wire brackets which clip into holes on the inside of the shoe which is not what I wanted. The photos show a GY fitted with my first method of supporting the shoes. I cut the CV wire to the required length and fitted the shoes to each end. Some soft copper electrical wire was flattened and then wrapped around the CV wire to form the vertical hangers and the whole assembly was glued with Aron Alpha. This proved a quick method but looked unsightly when viewed end on so I had to rethink the problem.

As you can see in the photos of GY2018 the vertical rod is attached to the casting that the brakeshoe is clipped into so this was my next aim when I started on the U van. The CV shoes come attached to a moulding sprue and are 'paired' so while still attached to the sprue they can each be drilled in the centre of the shoe support. Because they are paired you only work in one direction with the drill otherwise when separated and fitted one shoe will be facing inwards.

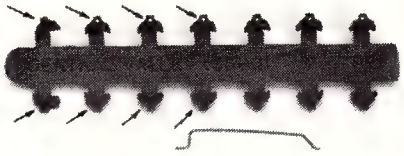
Separate the shoes then cut wire for the hangers and for the rod that the shoes are mounted on. Dry assemble each set of two shoes and three pieces of wire checking that the shoes will fit onto the treads of a pair of wheels and then Aron Alpha the joints. When fitting the assembly to your wagon remember that when viewed end on the hangers are vertical but viewed from the side they slope inward. Drill holes in the floor of your wagon and mount the shoes according to photos or plans. Usually this would be on a level with the wheel centres. If the wagon has a thin floor or it is a flat or open type where you don't want to see the ends of the wires then you can bend the hangers so that they are stepped outward to go into the back of the sidesill but make sure that the step is not viewed from trackside. Usually I don't superdetail the floor by adding all of the piping etc. because this is only seen during contests or after derailments.

Adding brakeshoes, a brake cylinder, triple valve and a brakewheel or ratchet will help fill the void underneath your fourwheelers. If you want to go further and add the linkages that connect the shoes to the air cylinder I suggest you look at the prototype, at the rough drawings included with this article (I'm no draughtsman) and at the excellent plan accompanying Greg Edward's article on the CW which was printed in the March/April 1975 AMRM. Although this was for the NSW style used in 1916 the basic idea is still used on new constructions in the '70s.

Ground Throw Levers

Judging by models of British wagons the old country had a ground throw on each side of its rollingstock however in Augstralia the normal practice is to have only one lever and then mix the wagons. On older wagons this meant two more brakeshoes however on the short wheelbase variety of U van the lever operates the same linkage as the air cylinder.

When I made the rash decision to fit three GYs with levers I couldn't locate a plan. I had always thought that the majority of these wagons were fitted with levers the rest having a 7 inch diameter wheel at one end. As you might expect I spent three weekends searching



A set of Central Valley brakeshoes still attached to the moulding sprue and showing the angle at which they are drilled.

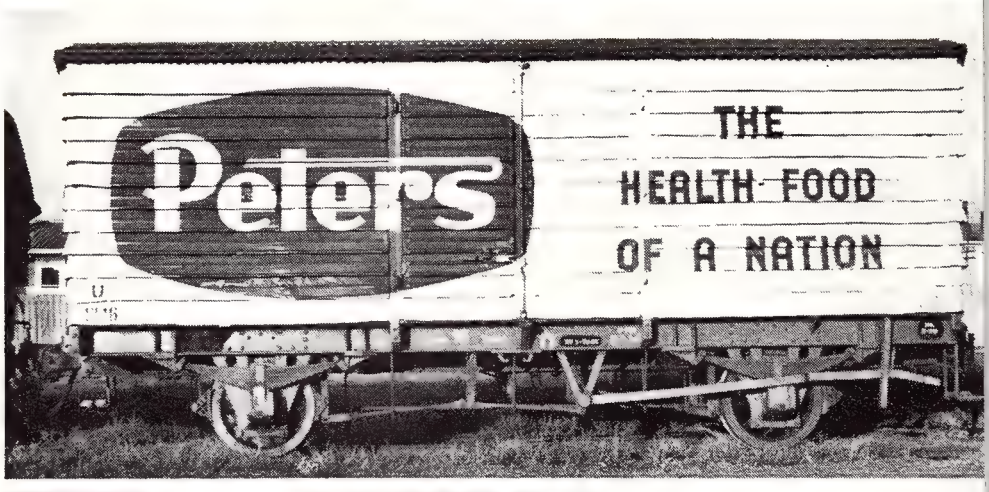
for lever equipped GYs and all I could find had brake wheels. I decided to scale all of the parts from the photos of GY2018 which were taken at Pinnaroo in 1973. Two years later I finally brought a tape measure and a lever equipped GY together from which I produced the drawings. I have dimensioned them in inches because most serious scratchbuilders I know use the Scale modelling ruler produced in the USA.

Not having a layout of my own I knew that the wagons would be handled frequently so it was not practical to make the lever accurate but fragile. The photos showed that the levers and supporting brackets are quite narrow so I cut a strip of .010" brass sheet as thin as possible, straightened out the curl and filed off the rough edges to form thin strapping. The rod that the lever turns is about a number 76 drill size so locate some suitable wire and then drill three holes in one end in a straight line as close together as possible to form the small arm that will move the shoes. The bracket that is attached to the side sill was made from two pieces of strapping with a hole drilled in one end of each. I didn't know the design of the support that attaches to the centre sill because none of my photos were of derailed wagons so I guessed — wrongly as I learned later. I wrapped a piece of strapping tightly around the rod then twisted the strapping to form a vee similar to that on the side sill. The VR uses a single vertical plate which is much easier to model.

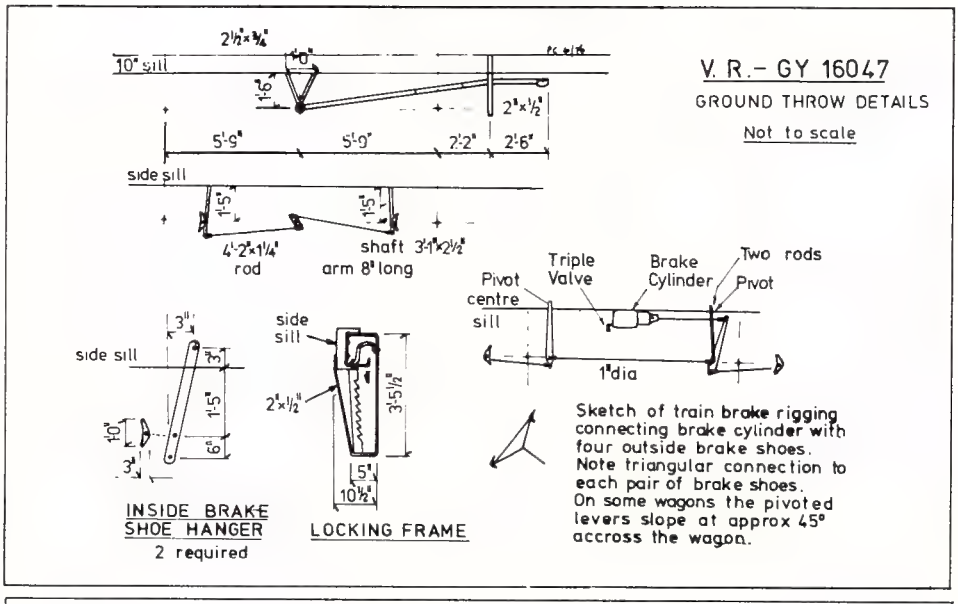
Dry assemble the two supports for the side sill, the small arm with three holes and the centresill bracket onto the rod then glue the supports to the required angle but leave the small arm until later. The photos of GY2018 showed that this rod is beneath the centre post of the doorway and level with the axleboxes so that is where it went. The triple valve is on the left end of the brake cylinder when looking at the ground throw lever.

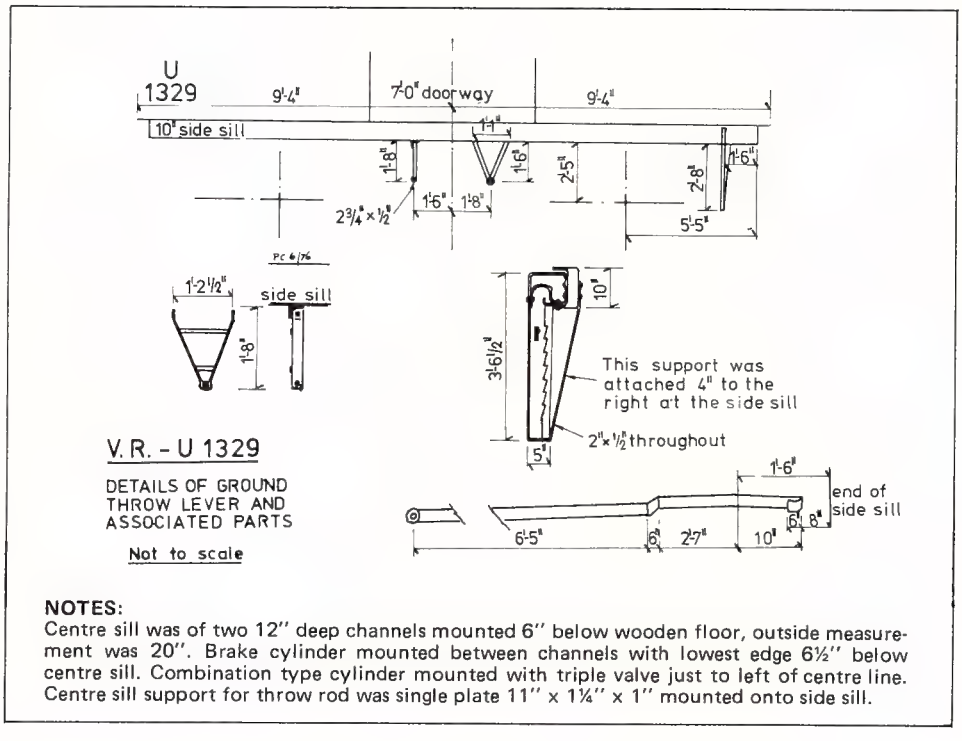
The two brakeshoes operated by the lever do not have hangers made from rod but instead a piece of flat steel is pivoted behind the side sill, passes through the back of the brake shoe and extends to the lower edge of the shoe where the rod that moves the shoe is attached. Drill holes in the end of two bits of strapping, cut a slot through the back of two brake shoes then glue each just above the hole. Now glue these flat hangers behind the side sill but check the photos to see how much they slope outward when viewed from the side. Looking at the photo of the lever you will see that the connecting rod for the left hand brake shoe goes into the lowest hole of the small arm and that the right shoe is connected to the top hole. Cut suitable length wires to do this and note that the top of the small arm is near the '11 o'clock' position almost in line with the supporting bracket. When satisfied that the arm is at the correct angle and that it is also aligned with the two shoes you can glue it in place.

Now for the ground throw lever and locking frame. The photographs gave the correct dimensions for these parts so I bent some strapping to the shape of the frame. To represent the teeth I used a piece of fine fretsaw blade. Note that because the arm is sprung into the 'brakes off' position the teeth are intended to hold the lever down when the brakes are applied. Believe me it's easy to fit the teeth upside down so that the lever will always bounce back to the off position. Only your best friends will tell you that all that work is wasted — the rest aren't game. When you're happy with this assembly you can glue it in place making sure that the angled part of the frame that attaches to the floor is well supported as the frame is the most fragile part of the whole assembly.

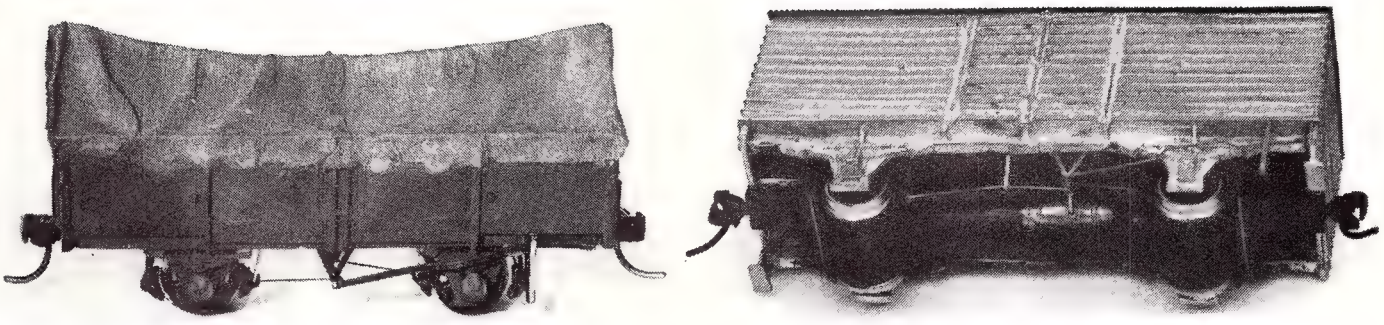


The photos of U1346 were taken at Donald in 1974. Chassis, ends and roof are all VR wagon red while the sides are dark green on a white background. You can clearly see the triangular frame in the left brakeshoe rodding.





NOTES:
Centre sill was of two 12" deep channels mounted 6" below wooden floor, outside measurement was 20". Brake cylinder mounted between channels with lowest edge 6½" below centre sill. Combination type cylinder mounted with triple valve just to left of centre line. Centre sill support for throw rod was single plate 11" x 1¼" x 1" mounted onto side sill.



The incomplete GY model is fitted with the early style of hangers. The tarpaulin is toilet tissue draped over a wire former then drowned in 'Polly S' paint to make it shrink and taughten. The U van is fitted with my later style of hangers.

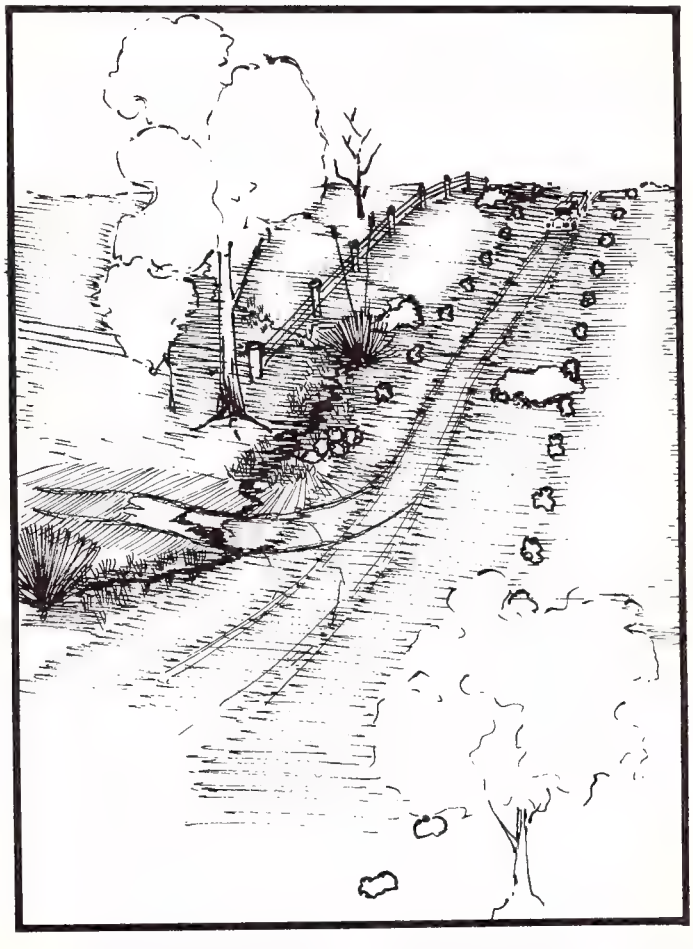
The lever has several bends in it to clear the axle box and then the side still before being formed into a tight U bend where the shunter stomps his boot to force the lever down. The photos show that the lever is in a straight line from the rod to where it passes through the locking frame but it is bent outward to clear the axle box cover and is straight for the width of the box before bending back into line with the frame. These bends are not sudden but curve to reduce strain and the risk of twisting when jumped on. When in the off position the end of the lever is slightly below level after going through the frame and the turn back is outwards at the end.

Flue the lever in the off position as it is not good for the wheel treads if wagons are hauled with the hand brakes hard on. As the photos show the wagons are sometimes left stationary with the brakes off. I made each lever to suit a wagon rather than try and make one that will suit all.

The U Van

When I decided to fit one of the U van kits with a ground throw lever I once again had to resort to photos. Because the wheel base is longer than that of a GY the pivot of the lever is to the right of the wagon centreline and an additional pivoted lever is built into the rodding which drives the left had inside brakeshoe. It is a triangular frame at rightangles to the sidesill and piboted just beneath it. The rods from the left hand shoe and the bottom hole in the small arm are both connected to the bottom of the triangular frame. When the ground throw lever is forced down the small arm is turned clockwise which then moves the triangular frame and brakeshoe to the left. The triangular frame was made from strapping but not made to pivot. I guess it would be possible for a 'rivet counter' to make the lever operate the two inside shoes but I doubt if it would be worth the extra effort other than to meet a challenge and prove that it can be done.

A SMALL POINT BUT!



Often when approaching town limits the road would be lined both sides with local rocks, painted white and set 6 to 10 feet apart. Wheel ruts snaked from side to side dodging bolders or wet patches and sometimes dividing into two-way traffic to pass around both sides of a tree right in the middle of the road.

David Wearne

Have you noticed how erosion by water often undercuts the 'cliff' face, leaving a grassy eyebrow projecting 3 or 4 inches, or when this collapses a grassy sod is found lower down. Also, that a thre's roots spread about the same distance as its branches, the roots being exposed where erosion occurs.

David Wearne

DRILLS

Modellers have a constant use for drills. Apart from the requirement for holes of a certain size, drills are used for drilling tapping and clearance holes for screws. See table 1 for a list of drills and their equivalent H0 scale size.

To drill a certain size hole, all that is required is that you find that hole size, or the closest size, in the right hand column and use the recommended drill as shown in the left hand column. Remember; 1/64" H0 scale is equivalent to .00017", so there is flexibility in choosing a size of drill.

Fortunately, it is not essential that all these drills be purchased. For modelling purposes, most of the drills needed fall between No 80 and 3.5mm. The drills chosen are used for tapping and clearance holes, to suit particular wire sizes and the like. Listed in table 2 is the drills most useful for this type of work.

Again, most of these drills are not required immediately. The idea is to purchase a set of the most usable drills and expand the range as a particular job requires a particular size. Therefore, it is recommended that the drills in table 3 be chosen for a starter kit.

Other drills that may prove handy to purchase are No 80, 72, 60, 50 and 48.

For modelling purposes, the only other requirement is for a ¼" drill. This can be used for countersinking holes and general de-burring.

Phil Curnow.

TABLE 2

BA Screw Size	Tapping Drill	Clearance Drill
0	8	B
1	16	3
2	5/32	12
3	29	19
4	32	27
5	37	30
6	43	33
7	47	39
8	50	43
9	53	48
10	54	50
11	56	53
12	60	55

ANF Screw Size	Tapping Drill	Clearance Drill
0	3/64	51
1	1/16	47
2	49	42
3	45	36
4	3/32	32
5	36	29
6	32	26

Wire Gauge	Decimal Diameter	Closest Drill Size	Closest Fractional Scale Inch
10	.128"	1/8	10 7/8"
16	.064"	52	5½"
18	.048"	3/64	4 1/16"
20	.036"	64	3 1/8"
22	.028"	70	2 7/16"
24	.022"	74	2"
26	.018"	77	1 9/16"
28	.0148"	79	1¼"
30	.0124"	82	1 3/32"
32	.0108"	86	7/8"
34	.0092"	89	¾"
36	.0076"	93	5/8"
38	.0060"	97	½"

TABLE 3

Drill	Usage	Drill	Usage
79	28 SWG wire	1/16"	
1/64"		50	8 BA clearance
77	26 SWG wire	43	8 BA tapping, 6 BA clearance
74	24 SWG wire	33	6 BA tapping
70	22 SWG wire	1/8"	
1/32"		3.2mm or Romford axle clearance	
64	20 SWG wire	3.25mm or 30	

Total 13 drills. Approximate cost $7.00

TABLE 1

Drill Size	Decimal Scale Inch	Closest Fractional Scale Inch						
97	.513"	33/64" (½")	62	3.309"	3 5/16"	41	8.360"	8 23/64"
96	.548"	35/64" (9/16")	61	3.396"	3 25/64"	40	8.535"	8 17/32"
95	.583"	19/32"	1.0mm	3.431"	3 7/16"	2.5mm	8.569"	8 9/16"
94	.618"	39/64" (5/8")	60	3.483"	3 31/64" (½")	39	8.665"	8 43/64"
93	.653"	21/32"	59	3.570"	3 37/64"	38	8.839"	8 27/32"
92	.688"	11/16"	58	3.657"	3 21/32"	2.6mm	8.918"	8 59/64"
91	.722"	47/64" (¾")	57	3.744"	3 ¾"	37	9.057"	9 1/16"
90	.757"	¾"	1.1	3.771"	3 49/64"	2.7mm	9.250"	9 ¼"
89	.792"	51/64"	56	4.049"	4 3/64"	36	9.275"	9 9/32"
88	.827"	53/64"	3/64	4.084"	4 5/64"	2.75mm	9.432"	9 7/16"
87	.870"	7/8"	1.2mm	4.110"	4 7/64"	7/64	9.527"	9 17/32"
86	.914"	29/32"	1.25mm	4.284"	4 9/32"	35	9.580"	9 37/64"
85	.958"	61/64"	1.3mm	4.459"	4 29/64"	2.8mm	9.597"	9 19/32"
84	1.001"	1"	55	4.528"	4 17/32"	34	9.667"	9 43/64"
83	1.045"	1 3/64"	54	4.790"	4 51/64"	33	9.841"	9 27/32"
82	1.088"	1 3/32"	1.4mm	4.798"	4 51/64"	2.9mm	9.946"	9 61/64"
81	1.132"	1 9/64" (1/8")	1.5mm	5.147"	5 9/64"	32	10.102"	10 7/64"
80	1.175"	1 11/64"	53	5.182"	5 3/16"	3.0mm	10.285"	10 9/32"
79	1.263"	1 17/64" (¼")	1/16	5.443"	5 7/16"	31	10.451"	10 29/64"
1/64	1.363"	1 23/64" (3/8")	1.6mm	5.486"	5 31/64" (½")	3.1mm	10.625"	10 5/8"
78	1.393"	1 25/64"	52	5.530"	5 17/32"	1/8	10.886"	10 7/8"
77	1.567"	1 9/16"	1.7mm	5.826"	5 53/64"	3.2mm	10.973"	10 31/32"
.5mm	1.715"	1 23/32"	51	5.835"	5 27/32"	3.25mm	11.147"	11 9/64"
76	1.741"	1 ¾"	1.75mm	6.000"	6"	30	11.191"	11 3/16"
75	1.828"	1 53/64"	50	6.096"	6 3/32"	3.3mm	11.313"	11 5/16"
74	1.959"	1 61/64"	1.8mm	6.174"	6 11/64"	3.4mm	11.660"	11 21/32"
.6mm	2.403"	2 13/32"	49	6.357"	6 23/64"	29	11.844"	11 27/32"
73	2.090"	2 3/32"	1.9mm	6.514"	6 33/64" (½")	3.5mm	12.000"	12"
72	2.177"	2 11/64"	48	6.619"	6 5/8"			
71	2.264"	2 17/64" (¼")	5/64	6.801"	6 13/16"			
.7mm	2.403"	2 13/32"	47	6.836"	6 53/64"			
70	2.438"	2 7/16"	2.0mm	6.854"	6 55/64"			
69	2.543"	2 35/64"	46	7.054"	7 3/64"			
.75mm	2.569"	2 9/16"	45	7.141"	7 9/64"			
68	2.699"	2 45/64"	2.1mm	7.202"	7 13/64"			
1/32	2.726"	2 47/64 (¾")	44	7.489"	7 31/64 (½")			
.8mm	2.743"	2 ¾"	2.2mm	7.542"	7 35/64"			
67	2.786"	2 25/32"	2.25mm	7.716"	7 23/32"			
66	2.874"	2 7/8"	43	7.751"	7 ¾"			
65	3.048"	3 3/64"	2.3mm	7.890"	7 57/64"			
.9mm	3.083"	3 3/32"	42	8.143"	8 9/64"			
64	3.135"	3 1/8"	3/32	8.160"	8 5/32"			
63	3.222"	3 7/32"	2.4mm	8.230"	8 15/64"			

PHOTOGRAPH IT NOW

At present there is an unhearalded rehibilitation programme being implemented on all railway systems, where the aim is to modernise every thing moving or still or remove it completely. To record some of the past era structures and wagons it is necessary to photograph and research it now . . . today, so that the modellers of tomorrow will have a little of yesterday to model.

Bob Gallagher.

NSWR

Frank Shennan continues the description of his operational layout.

Continuing from page 41 of the March/April 1977 issue of A.M.R.M. this part of the NSWR series resumes the general description of the Large Country Junction.

An overnight stay at Summit inspecting the railway, mountain scenery and other interests and a morning ride 'down' the Range on the daily local to Midplains (in LFX 881 or perhaps HR 322 behind a 19,32 or a (diesel) provides time at the latter station to grab a sandwich before crossing the platform to board the 'down' Coast Express ex Central. The express moves off through a short tunnel (7 again as for the Mountain) before entering a deep out-of-sight cut, then tunnel 10 carrying the line on a wide 3 feet, 160 degree curve on a 1-64 falling grade (diagonally under Central station platforms) to greet blue sky at Orchardville, first stop on the Coast division. This has a single face platform on the right of the main on the 'down' with a single trailing siding off the passing loop, and a small freight shed platform mainly for parcels. Three points and four signals handle the movements here.

After this stop the express continues into tunnel (11, under Central roundhouse region) and into the sunlight again on the north face of the layout, the wheat growing area served by Harveston station, a wayside site glorified by a midget station, coal yard and, naturally, silos on the one siding used for all needs. There is no passing loop.

Down to the sea

Frowning over the coal yard is the tunnel portal of the 12th bore, covering a 90-degree falling grade of 1-48 (under Midplains roundhouse etc.) straightening out on the west face of the layout below and in front of Midplains. This is a junction location where the reverse loop extending beyond Port station rejoins the main. Trains can take either direction according to traffic conditions. The direct mainline rips into tunnel 13 before the gradient flattens out at this terminal. The reverse loop is completely out of sight and mainly covered in tunnels 14 and 15.

Originally called Port Wallaroo, now shortened to Port, this station represents the main overseas import-export shipping facility for the State. It has an island platform for 'up' and 'down' main lines which converge when taking the loop mentioned, a two-track coach shed for 6 75-feet cars, a two-track engine shed with water tank and coal stage, long wharf shed with tracks either side, and silos, cranes, cargo vessels, signal box, railway administration and crew quarters building, and incidental lineside items. There are 8 freight sidings and two shunting necks. The trackage is compressed into a tight area swinging to the right and encompasses a double and a single crossover, plus 3 3-way points, and six single turnouts, all powered. Movements are directed by 6 mast signals.

That gives a picture of the layout in general and, as recommended, reference to the complete trackage diagram and others will be a further aid. In most cases on the diagram the tunnels are numbered at both ends as a guide to differentiate from overlapping tracks on other levels.

The main lines pass several farm and other lineside buildings of interest not mentioned. The over-riding planning of the layout was to avoid the 'all tracks' look and to that end the numerous tunnels disguise adjacent mainline tracks in the vicinity of stations and, to an extent, present an individual diaramas according to the position of the viewer.

At this stage it may be useful to describe some aspects of the layout per separate headings viz. Locos and Rollingstock, Controls, Operations, Construction, Trackwork and Scenery, Rollingstock construction and Electrical work in that order.

Locomotives and rollingstock

The classes, codes and numbers of the locos and cars and the codes of the wagons etc. are as follows:-

Locomotives — steam: two 19-class numbered 1923 and 1942; two 32-class 3271 and 3294; 36-class 3665; 38-class 3824; two 50-class 5063 and 5085; 55-class 5517 and a 60-class 6038; diesel-electric: prototype two 44-class 4409 and 4469; modified US units to near NSWGR prototype — two 42-class 4201 and 4202; two 43-class 4352 and 4395; three 45-class 4512, 4550 and 4588 and one 73-class 7357. Total locomotives 20. Non-prototype numbers given non-modified near prototype locos.

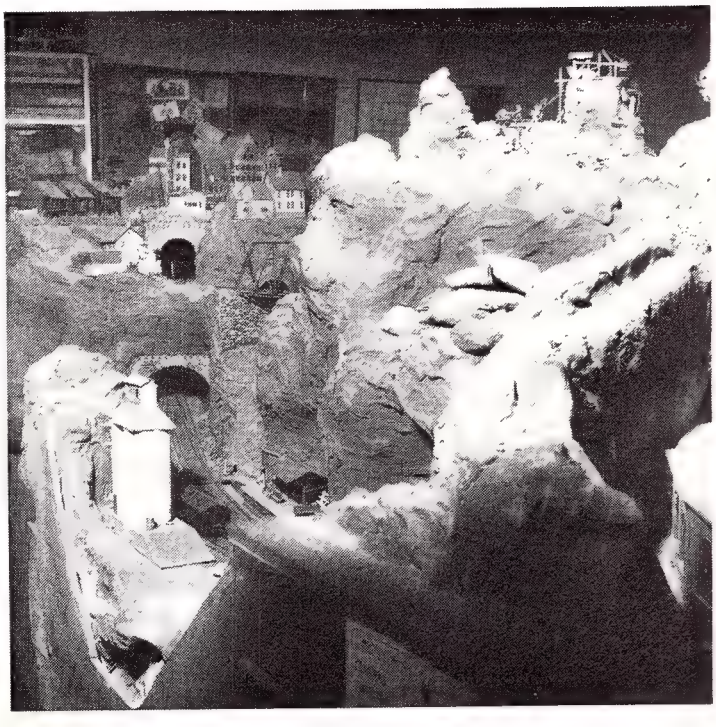
The 19-class are Protype models and 3271 and 5517 were built locally. All the other steam locos are Japanese products. The diesels came from Tenshodo, Lima, Hobbytown and Athearn. A streamlined 38 (3801) and a 57 (5719) built here in 1946 were given to another layout owner some years later.

Passenger rolling stock — electric suburban set, C3721, T4670, T4731; end-loading LAB set BI 1076, FO 1251, FO 1253; BJ 897; FS 2011, 2098; HR 322; LFX 38, 881; MBE 105, 549, MCE 220, 637; MFE 1034; RBX 82; RFX 601; TAM 848, 936, 1883, TBC 443, 577. Vans EHO 668, 909; HKL 424; MHO 1813. ROA cars — ARL 921, 947; BRJ 919, 976; DF 964. Van HM 958. Total passenger stock — 36 cars.

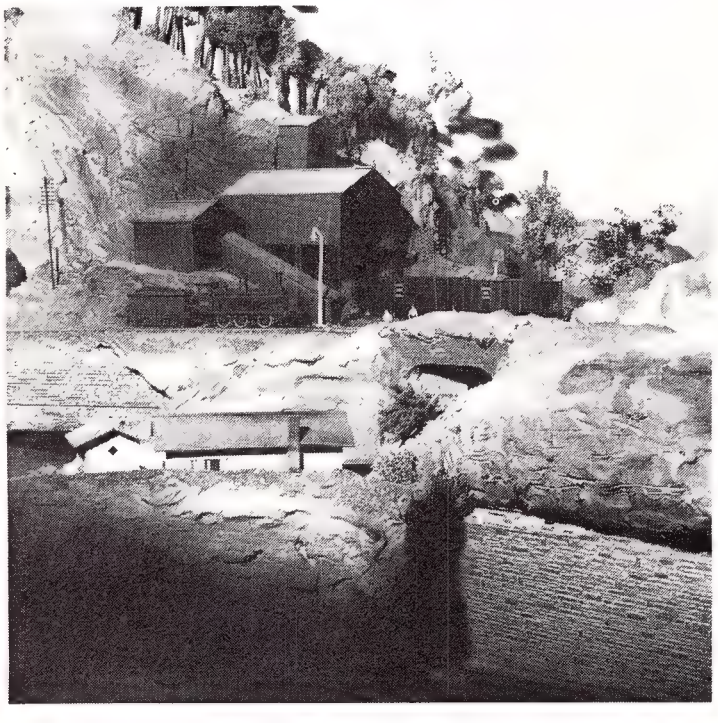
The suburban electrics are the Triang models, improved with additional essentials omitted in the original, painted in the correct livery and numbered. The R.O.A. set is that by Lima, and the LAB set by a Sydney modeller. The two FS cars were built by Mike McCormac, and the twelve-wheelers and the rest by the writer around 1943-4.

Freight rollingstock, showing the number of wagons under each code, in alphabetical order: 4 BCH, 6 BCW, 5 BD, 2 BDX, 4 BWH, 2 CW, 1 FME, 3 K, 5 LLV, 2 MBC, 2 MCV, 1 MLE, 8 MRC, 3 RU, 5 S, 3 SRC, 3 TRC, 5 tankers, and 1 UME. Vans — 1 LHG, 2 MHG, 2 OHG, 1 PHG and 2 SHG. Other States' wagons — CR — 3 RG; SAR — 2 ELX; VR — 1 ELX; 7 VLX; WAGR — 2 WGX and 1 WVX. Service units — 2-unit NSWGR weed control set, 200-ton Athearn breakdown crane with attached well wagon spacer for crane jib overhang. Total freight and service units — 93.

Protype provided the CW, MLV, MCV, S, SRC and VLX stock. The BD, BDX, FME,



This photo taken from the north-west corner gives an appreciation of the highest and lowest track levels. On the skyline is the back of Quakers Quarries where the Mountain division ends while in the deep region below is Harveston Station and silos. About mid height is the tunnel 1 portal and part of the truss bridge carrying the main line away from Central on the other end of tunnel 1. The difference in top and low track levels here is about 14 inches.



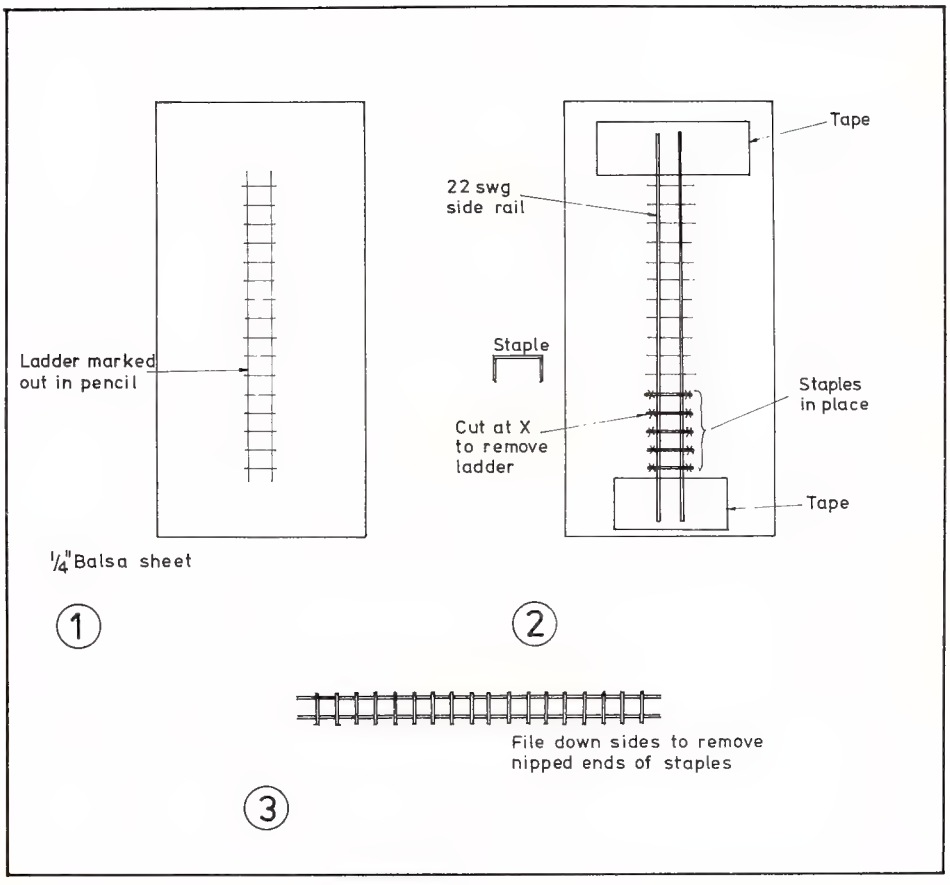
Black Range colliery originates a lot of traffic on the Mountain division both for metropolitan needs at the capital and for export from Port. A 19 Class is required to shunt BCH's in and out of the mine loader. In the foreground is a cottage alongside the Central-Suburton mainline close to tunnel 3.

Close view of Central Station with the 38 and the 4-car suburban set in the foreground and some of the 12-wheeler cars and an FS on the coach shed tracks.

MLE, K. RU, UME, ELX, WGX and WVX were assembled from commercial kits by Friedmont, MRC, EM-CE and others. The BCH, BWH, and RG were modified from Tenshode models which were made almost identical in most cases, while fellow members of the SMRS offered some of the wagons made in big batches for the Society's layout. These included the BCW, LLV, MBC, MRC, TRC, LHG, MHG, OHG and one SHG, and a two-car weed control unit. They came from Arthur Wheatley, Ken Smith, Denis Shearing and Max Burke. Two MRC, one PHG and a SHG were built by the writer in 1944 with other NSWGR freight stock since disposed of.

The new home additions and subsequent building of the layout benches etc. followed by trackwork, scenery and so on spelt the end of my rollingstock production from scratch although the assembly, painting, modification and codes numbers and symbols thereon plus installation of Mantua couplers has absorbed most of the allotted time in recent years. Additionally building structures, overall maintenance and other chores has left no time for that interesting pastime. The roster of locos and rollingstock is now complete except that I would like to add a 59-class loco if that type comes on to the market.

LADDERS



Recently, I needed a single length of ladder about 50 H0 feet long. It wasn't possible to buy such a length so I had to make it from scratch.

The method is simple and the materials inexpensive. The only skill required is the careful use of a soldering iron.

Materials — 22 SWG tinned copper wire. (Available from most radio parts suppliers) Sheet of ¼" thick balsa wood.
Box of small staples sold by Coles or Woolworths for the small school staplers. Adhesive tape.

Method — With a sharp pencil, accurately draw the outline of the desired ladder on the balsa sheet. I find 18" wide with rungs 12" apart seems to look quite satisfactory. (Fig. 1)

Straighten a piece of wire about three times the length of the ladder. This is best achieved by holding one end in a vice, the other with pliers and stretching. Cut two pieces slightly longer than the ladder from the straightened wire.

Lay the pieces of wire on the balsa wood along the pencilled side rails and secure at the top and bottom with adhesive tape. (Fig. 2) Carefully push staples into the wood where you have marked the rungs. The staples go over the side rails and hold them in place. (Fig. 2)

Using a small soldering iron, (e.g. Adcola M20) solder the rungs to the side rails with a minimum amount of solder. For those who aren't radio experts, a bit of practice on some spare staples wouldn't go amiss.

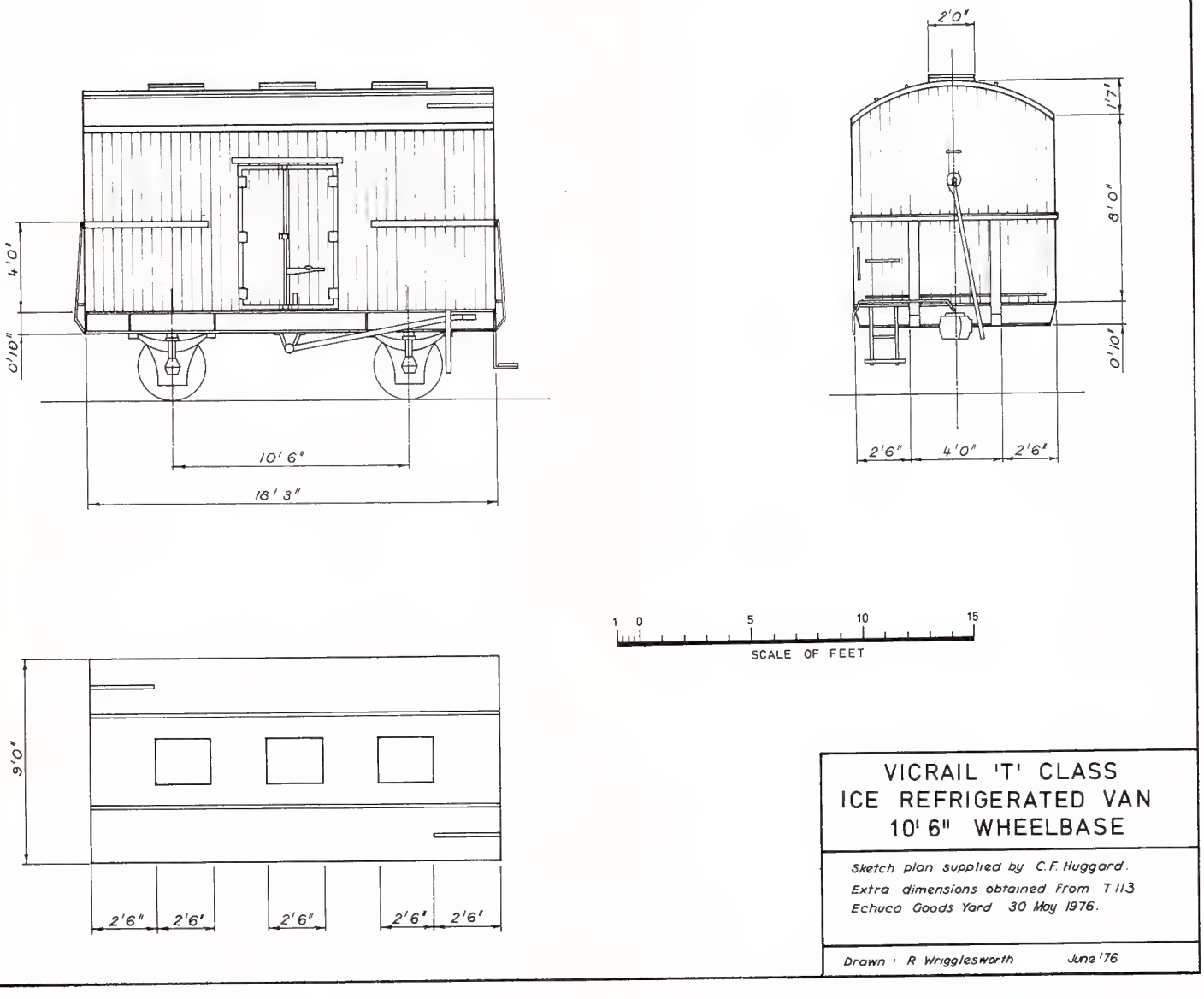
Nip the staples as close as possible to the side rails and then remove the ladder. A pair of miniature side cutters would be the best to use.

All that remains is to file the staples off flush with the sides and you have a ladder ready to use. (Fig. 3)

Peter Duncan

'T' Vans of the Victorian Railways

A coverage of V.R. 4 wheeled insulated vans



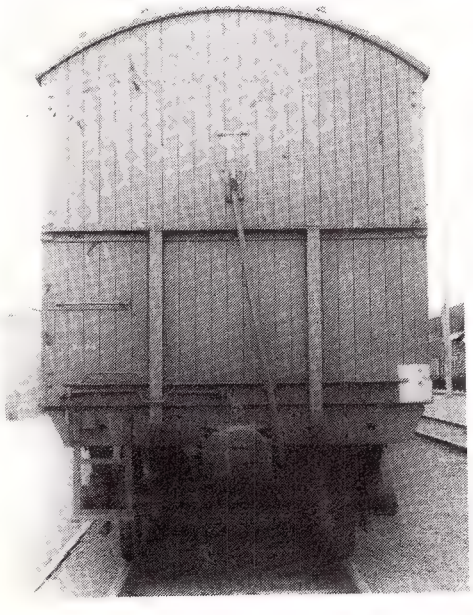
VICRAIL 'T' CLASS
ICE REFRIGERATED VAN
10' 6" WHEELBASE

Sketch plan supplied by C.F. Huggard.
Extra dimensions obtained from T 113
Echuca Goods Yard 30 May 1976.

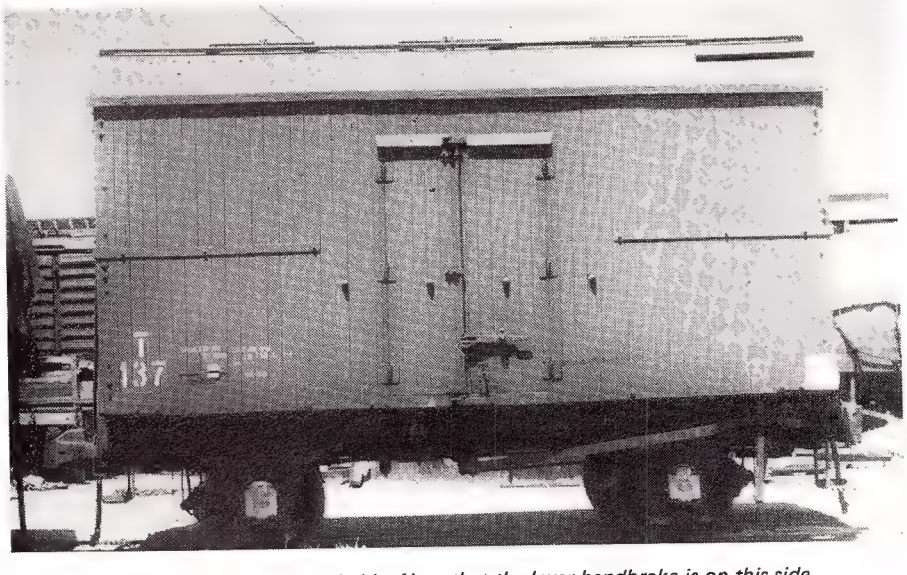
Drawn : R Wrigglesworth *June '76*

The VR T vans are officially classed as 'ice-refrigerated vans, for perishable goods'. Their main function is the carriage of perishables such as butter, frozen meat, fruit, and frozen rabbit. The 1959 VR 'Instructions relating to the Transportation of Goods' manual specifies that perishables traffic is their main function, and that they must not be put into general traffic without special authority. In practice, as well as being used for perishables traffic, they are often back-loaded with miscellaneous van goods such as boxed electrical appliances. During winter, most T's are stored.

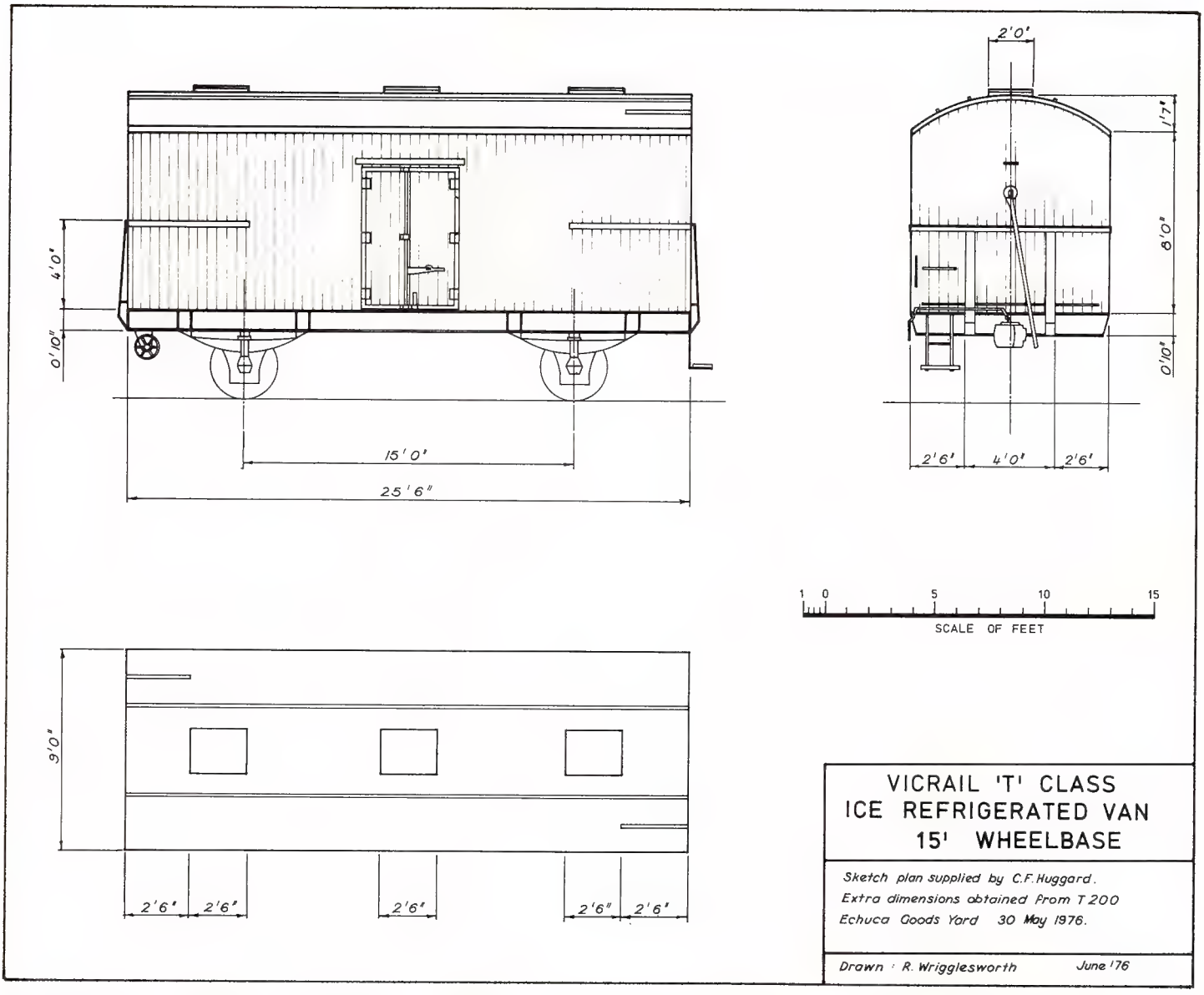
The T vans of today are in the same lineage



'Short' wood sheathed T, No. 2 end. The 5 holes at the right hand end of the end sill show where a buffer was fitted. 4 of the holes at the left-hand end were used to bolt on the shunter's step.



'Short' wood sheathed T, No. 1 side. Note that the lever handbrake is on this side.



VICRAIL 'T' CLASS ICE REFRIGERATED VAN 15' WHEELBASE

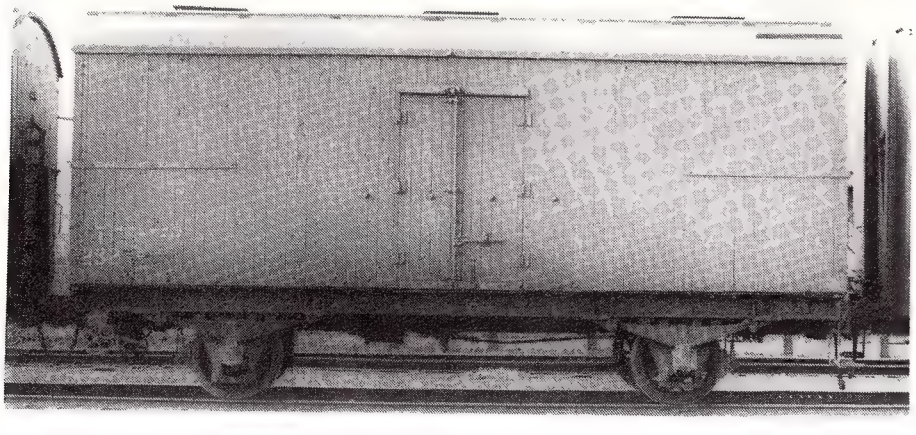
Sketch plan supplied by C.F.Huggard.
Extra dimensions obtained from T200
Echuca Goods Yard 30 May 1976.

Drawn : R. Wrigglesworth June '76

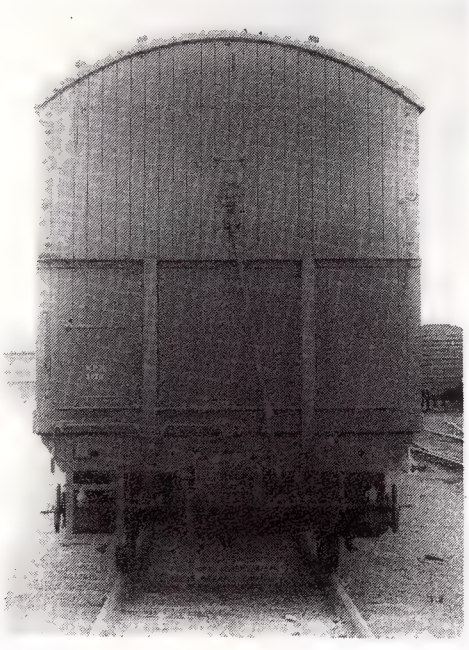
as the 'TTs' built in 1889-91. Those bogied insulated bans were described in the January/ February 1968 AMRM. Although none of the 31 'TTs' are in traffic as such today, some survive as 'WWs' (workmen's cars).

There are three main types of T van. Their groupings and main details are as follows:

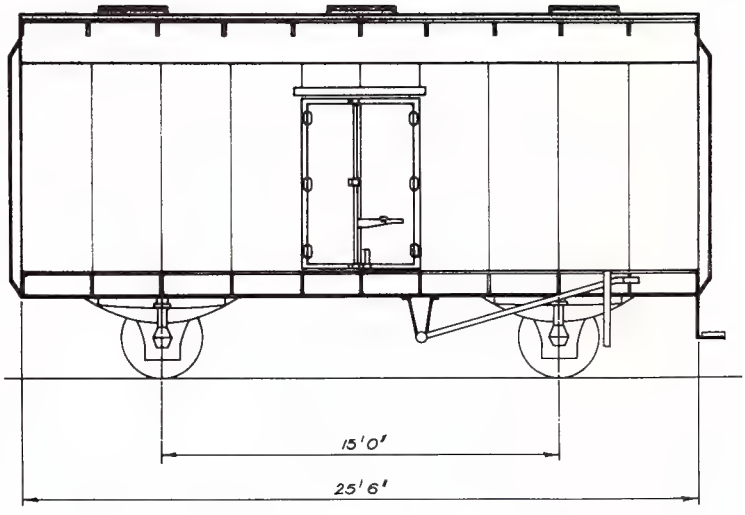
1. 12½ ton capacity, wood sheathed, 18th. long. Number groups: (a) 1 to 48, 73 to 120, 131 to 191. (b) 49 to 72, 121 to 130. Many of the vans in group (a) are fitted out with meat hooks. All vans in this group have slightly larger internal dimensions than those in group (b).
2. 15½ ton capacity, wood sheathed, 26 ft. long. Number group: 192 to 417. About 30 of these vans were fitted out internally for the requirements of meat-works operators such as the Victorian Inland Meat Authority. The 26 ft. T's were originally built on 6-wheel chassis. During the years 1910 to 1915, all these vans were lifted off their 6-wheel chassis and placed on the present 4-wheel chassis.
3. 15½ ton capacity, steel sheathed, 26 ft. long. Number group: 420 to 469. (Note that no T's were built with numbers 418 or 419. Modellers could perhaps build a T418 of any material, and not be picked at by 'purists'.) These vans were built at Newport, commencing in 1955. They were the only T's built witholut buffers and 3-link couplers as original equipment. T421 has a wide doorway (6 ft.) to allow direct entry of forklift trucks with palletised freight. (See photo.) T422 has strengthened panels. It is the only van so fitted, and is assumed to be an experimental type.

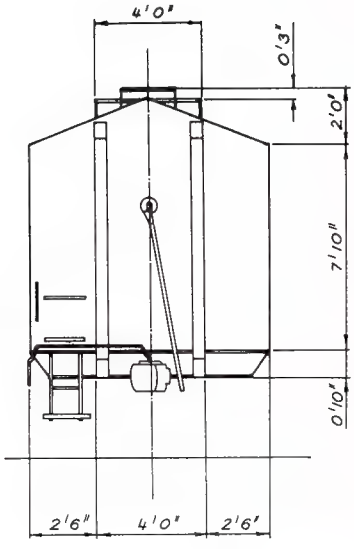


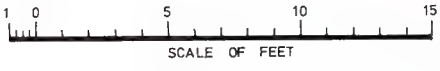
'Long' wood sheathed T, No. 2 side. 'Wheel' handbrake at left. Note 'odd' sheels, discs at left, spoked at right.

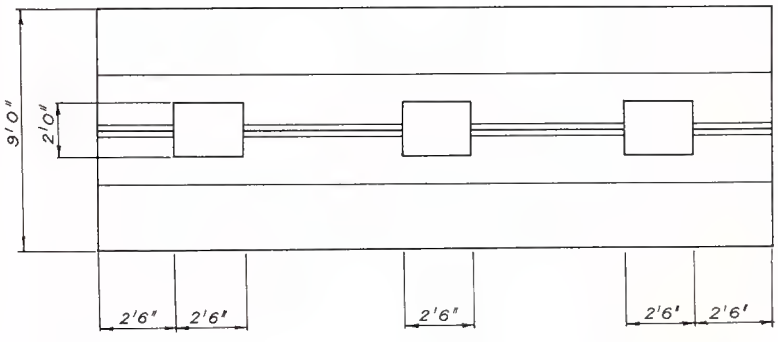


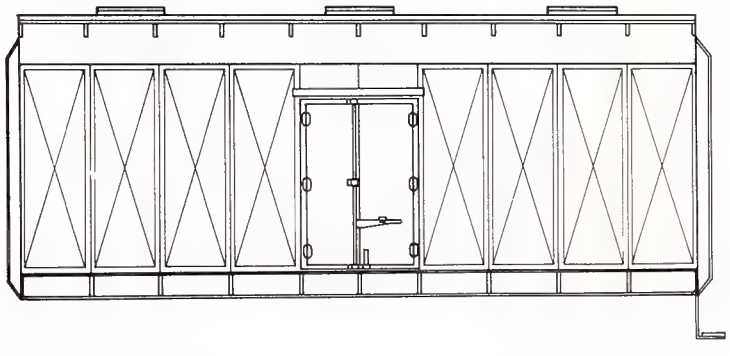
'Long' wood sheathed T, No. 1 end. Compare carefully with photo of 'short' van end for differences such as bolt centres, uncoupling bar mountings.











ONE OFF SPECIAL – N° T 422

VICRAIL 'T' CLASS ICE REFRIGERATED VAN 15' WHEELBASE – STEEL

Information supplied by Peter Vincent.

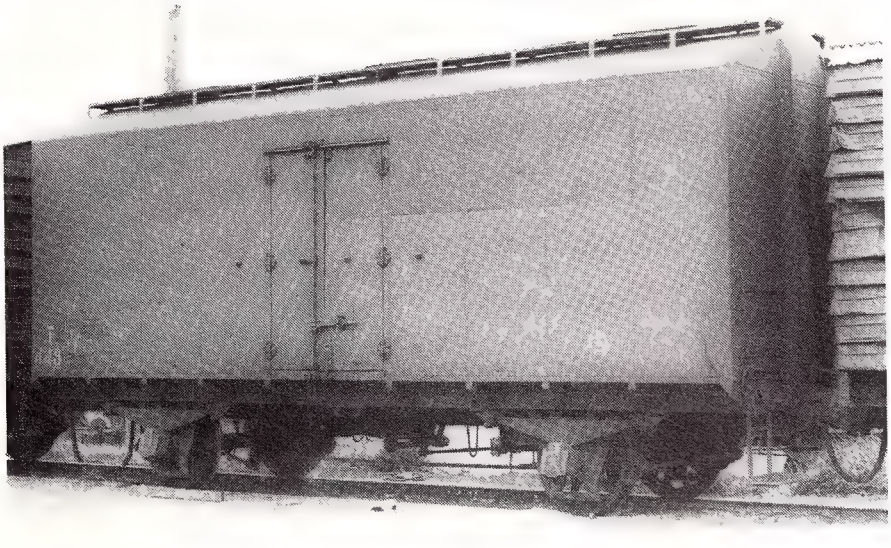
Plan prepared from photographs

Drawn · R Wrigglesworth *July '76*

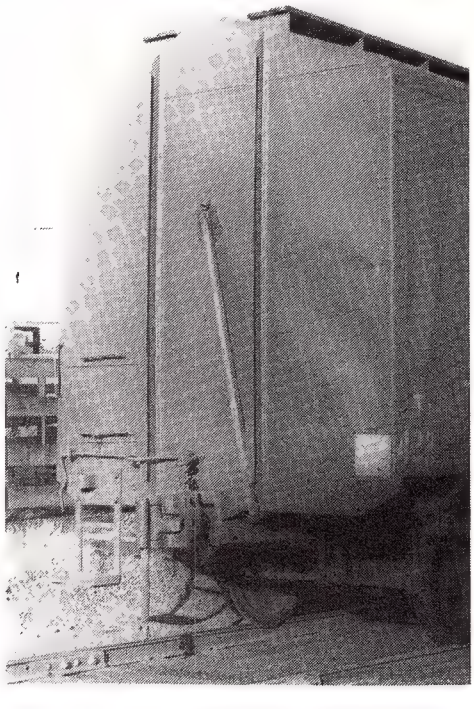
General Notes:

All T vans are fitted with ice bunkers and the distinctive drain channels at each end. However, many of the woodsheathed T's were not so built. These were fitted out for ice cooling in later years.

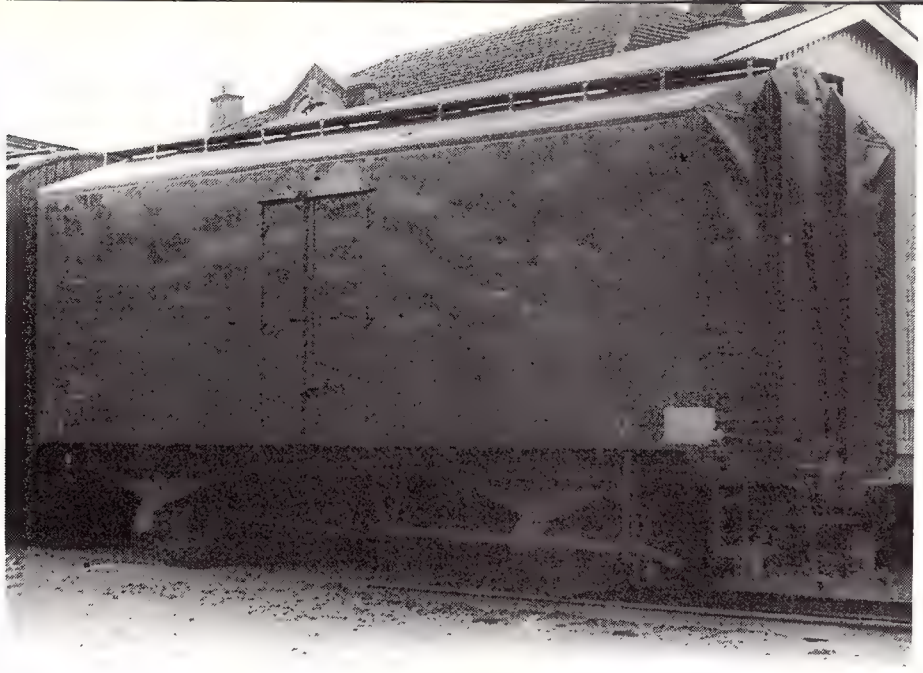
The vertical end braces were not original equipment on any woodsheathed T's. They were fitted to better secure the body to the chassis. By the 1950's, all had been braced. Also, after the wood sheathed T's were con-



Steel sheathed T, No. 2 side. The body outline, roof walks, end braces etc. are completely different to the wood sheathed van.



Steel-sheathed T, No. 2 end.



The No. 1 side of a steel sheathed T, at a suburban (Camberwell) goods shed. It is most unlikely that it was used for refrigerated goods on that trip.

This photo, taken by Bob Gallagher in Bendigo (1977), illustrates a number of roof styles.

verted for automatic (Knuckle) coupler operation, buffers were removed. The left-hand buffer position at each end now has a shunters step fitted.

As at December 1976, there are about 290 T vans left on the VR wagon register.

Compiled by Peter Vincent and Ian Weickhardt. Photos by Peter Vincent, drawings by Ron Wrigglesworth.

Close-up of stiffened panels on T422. Note dents occurring in spots remote from stiffening.

The wide doorway on T421. Door on other side is identical. Note presence of additional body support located under new doorpost.

ATTENTION 'CL' MODELLERS

It has come to our notice that the Victorian Railway's new 'C' class diesel electric locomotive will feature the nose and cab similar to the F45 model referred to in the COMRAILS KITBASH (ANR CL) article in the July/August 1977 issue of AMRM. It is therefore recommended that those converting a 'CL' do not discard the nose and cab of the F45 unit when removed for it is possible that it may be used in another conversion.

Editor

A REASON FOR EXISTANCE

How often, when a layout is being planned, has the rail system under consideration been given a sound economic basis for existance?

When the construction of a railway (prototype) was ever being considered there were at least two basic requirements:

i. There had to be a definite basis for potential traffic. In some states (S.A.) some farmers had to give an undertaking to utilize a minimum tonnage on rail for a given year, in forfeit being a cash settlement by the farmer/producer, (whether the payments were ever claimed by the railways is not known).

ii. Political pressure by those who wanted the prestige of a railway to their local town. (There is no need to list any of the reasons here for most readers should be aware that very little is beyond strong political pressure in this country).

To impliment both points, or just the first, it is essential that any planned areas must also have industries planned, to be either primary or secondary. The second point would give latitude to the modeller who wants to construct a purely scenic railway, with no industrial backing, but this style of layout could only be recommended to those who achieve full satisfaction from seeing a train run continuously.

For a layout to be engrossing and able to hold operator interest for long periods, facilities for shunting and the spotting of goods rolling stock is necessary. When applied this will give the same effect as providing the economic basis for existance. To increase interest try to provide for movement of vehicles between two different parts of the layout, (i.e. sheep wagons between the stock race in one area, to the stock race at the abattoirs which is situated at a different area of the layout). This small facet provides interest as it provides rolling stock movement.

.Many industries, or aspects of industries, can be readily seen at railway stations, no matter where one looks. The goods shed is a common source for traffic, for goods of all type is evident — small and large packages — complete grocery consignments for a whole town — goods inwards and outwards — vehicles used would include open wagons, covered vans, louvre vans (for perishables) and flat wagons — an attached yard crane would increase the range of objects handled, as would at attached loading dock. The stock race, common to most areas in this country (even if the format of races change from state to state), can be used to transport sheep, pigs and cattle from one area to the prementioned abattoirs. Bear in mind that the abattoir would most probably use coal for the boilers (a coal siding) and utilise insulated or ice vans to transport the final products. Modern layouts can utilise refrigerated containers. As a further development, a coal supply (either mine or storage are) and meat dispatch area can be provided in other areas of the layout, thus making more movements.

The milk siding, and associated factory, would see movement of milk tankers or louvre vans between factories (i.e. from a smaller factory to a larger one, with the return of wagons), or a milk train could run picking up the milk cans, left by farmers at way stations, finishing up of course at the milk factory. Similar movements can be provided for other products, i.e. wheat (from silo to mill to bakery/factory and then back to various towns), fertilizer in bags, food, cement, beer, timber, oil, fruit, hay, etc, etc. Loading facilities can either be the prementioned ones or even the common loading dock or even the transhipment siding where goods can be moved direct from road transport to rail wagons.

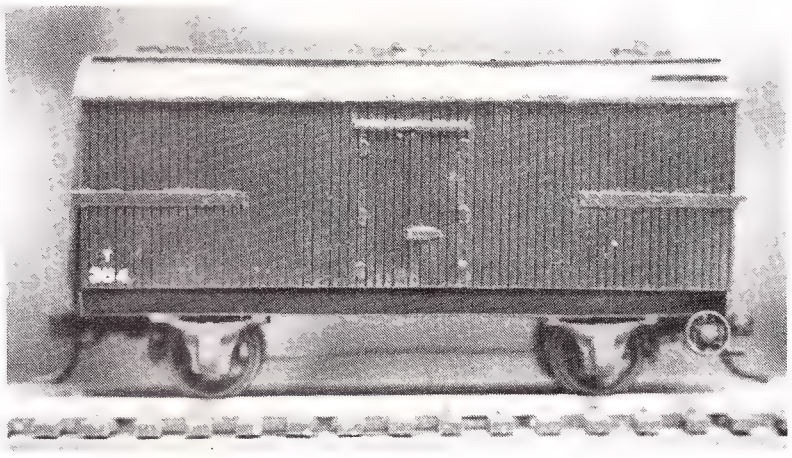
Do not, however, leave the job half done! Provide the layout with suitable structures (there are plenty about in kit form) to accept or dispatch products, either primary or secondary. This will provide some realism on the layout, commencing to give evidence of life which in turn gives railway atmosphere — the factor that all modellers are sub-consciously seeking.

Bob Gallagher

MODELLING PROJECT

V.R. 'T' Wagon

Charles Huggard describes his method of producing a simple Victorian Railway four wheel wagon



This is a brief description of how I went about building some VR 'T' vans on the 'production line' principle. The production line technique is one where you make all the various parts together, and then assemble all the wagons as a group. For example, if you build three vans, you make up three floors — perhaps by cutting and dressing three pieces from a piece of Northeastern stock — and then make up six sides, and so on until you have all the parts ready to assemble. The first stage of assembly would perhaps be to glue and pin the sides to the floors, and so on until in an agreeably short time there are three complete wagons waiting at the paint shops.

The VR 'T' vans are of three main types, as illustrated in plans in this issue. This article describes how I built one common type, that with the timber body sheathed in narrow vertical planks. This, in its 'short' and 'long' versions is the most common type of 'T' on the VR. Like the other 'Ts', it is an insulated 'perishables' van, kept cool inside by ice loaded through roof hatches. These 'Ts' are a common sight on VR goods trains.

My 'Ts' were built with separate bodies and chassis. These were matched at the appropriate stage in the building process.

1. Body Construction:

This follows the tried and trusted 'box' method. The body box consists of floor, two sides, two ends, a central bulkhead and the roof. The sides and ends are then sheathed in Northeastern scribed siding.

I cut the floor and end pieces from 3/16 inch ply. I cut the floors to the size dictated by the length of the van (MINUS twice the thickness of an end, MINUS twice the thickness of the scribed sheathing), and the width (MINUS twice the thickness of a side piece, MINUS twice the thickness of the scribed sheathing). Of course, you must have selected the material for your sides at this stage. Basswood about 1/16 inch thick, or some similar suitable wood will do quite well.

The end pieces are made to the full end dimensions, minus twice the thickness of the scribed sheathing. Glue (or glue and pin) them to the floor with a white glue such as Selleys 'Aquadhere', and let them dry. As they dry, check them for squareness and adjust if necessary. If you are doing a production run, you should now have all the ends attached to the floor.

Next, make up the sides so that they snugly fit between the ends, laying flat along the edge of the floor piece. Label the sides with the floors they belong to, as you'll probably find that the sides for different wagons don't interchange too well. If **YOURS** do, go to the top of the cabinet-making class.

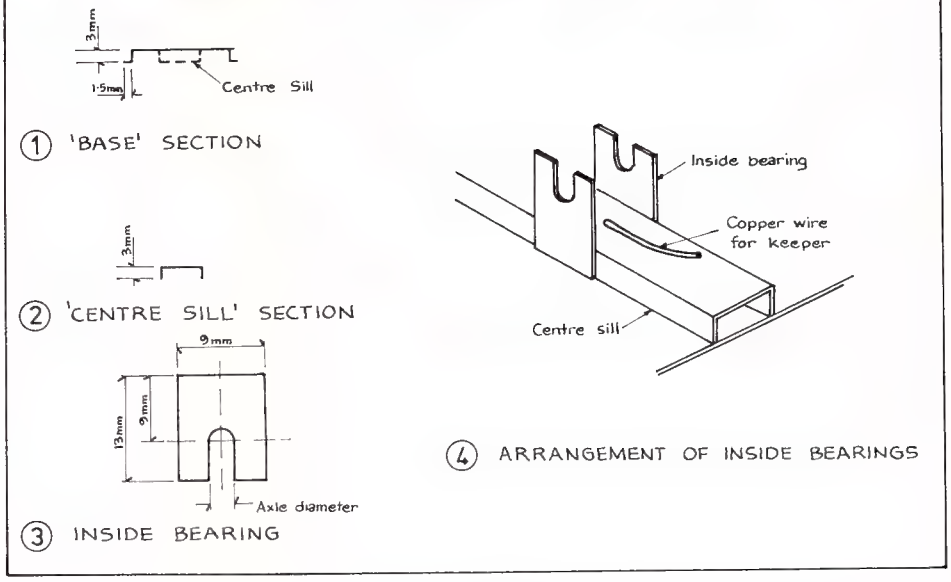
Glue these into place, and then make up a bulkhead for each vehicle. The bulkhead is merely a piece of ply or similar material, cut to fit between the sides, and shaped at the top to help support the roof. It is glued across the centre of the vehicle to strengthen the body, hold the sides parallel and provide intermediate support for the roof.

Cut and fit 1/32 inch Northeastern scribed siding to the ends first. Follow this with sheathing applied to the sides and neatly trimmed to match up with the sheathing on the ends.

The roof is cut from the same scribed sheathing, with the scribing running the length of the van. Glue it on **UPSIDE DOWN**: the scribing facilitates curving the roof with a minimum of bother. Glue it into place and secure with a couple of light elastic bands while the glue dries.

Details, such as roof hatches and door hardware can be made up from pieces of wood, cardboard, and wire, and glued on. Put as much as suits your taste, but remember that the business of detailing can take as long as all the prior construction time put together.

Paint the sides, ends and underfloor the usual VR 'red zinc chromate' brown. The roof can be the white they were many years ago, or a dirty yellow-brown. Letter them in the appropriate number series for wood-sheath vans (1 to 417).



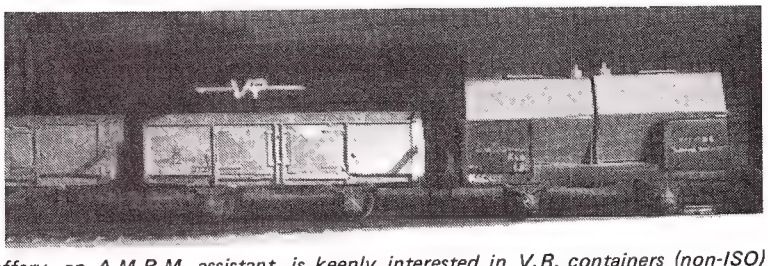
2. Chassis Construction:

I made mine completely from brass sheet. The chassis consists of a 'base', end sills, inside bearings, axleguards and whatever other detailed hardware you want to fit.

- Base: Long T van, 87.5 mm x 34 mm. 8 thou. sheet, or Short T van, 63 mm x 34 mm. 8 thou. sheet — shape according to Diag. 1.
- Centre Sill: Length of Base x 19 mm. 8 thou. sheet — shape as per Diag. 2 and put aside.
- Inside Bearings: (For use with 10.5 mm wheels). Cut 4 pieces of 10 thou. brass 13 mm x 6 mm, sweat them together, drill to suit axle size and shape as per Diag. 3.
- End Sills: 4 mm x width of base.
- Assembly: Solder end sills to base plate and solder or glue axleguards to base plate. Solder the inside bearings to the centre sill and then solder a piece of copper wire to the centre sill between each pair of bearings. These two pieces will function as keepers for the wheel sets. (Diag. 4).

  Now solder the centre sill in the **CENTRE** of the base. Solder on brake gear, shunters' steps and whatever other details you fancy. Paint the chassis the usual VR 'red zinc chromate' brown, fit the body and fit the couplers. File the axle points of the wheel sets, drop the axles into the slots and bend the copper wire loosely over the axle.
- *Note on inside bearings:* Several of us have found by experience that four-wheelers are less prone to derailment with inside bearings. This is because when a wheel rolls into a dip in the track, two relevant bearings apply leverage to the axle not far from its centre, making both wheels sit down.

Victorian Railways Containers.

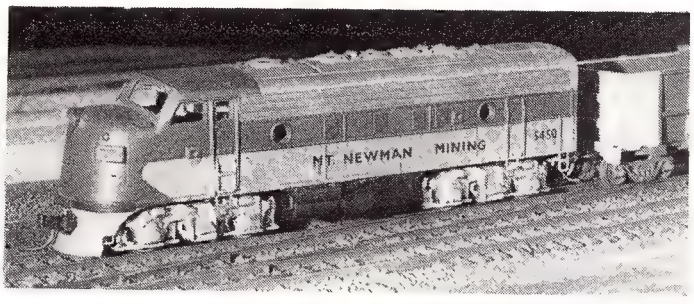


Phil Jeffery, an A.M.R.M. assistant, is keenly interested in V.R. containers (non-ISO) and is researching the subject for a future article in A.M.R.M. If any reader can assist with details, dimensions, or photographs, please write to Phil, c/- P.O. Box 235, Matraville, 2036. The photo by R. Gallagher shows a 'Malric Model' V.R. 'GY' coupled to a scratchbuilt cement container wagon.

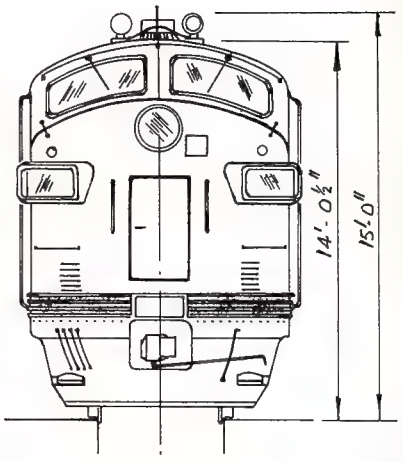
That fella riding on the cab step would risk a complete wipe-out on any of the Australian system, owing to the extreme width of the Mount Newman Mining F7a No. 5451. Easing a ballast extra across the 21-mile bridge south of Port Headland. Photo: Philip Graham, April, 1968.

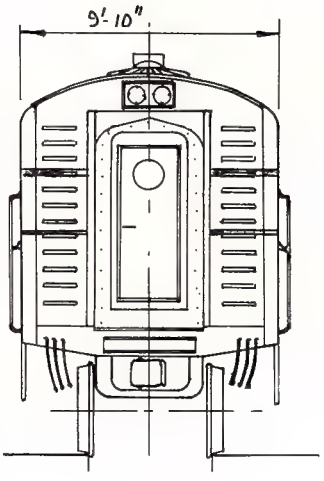
General Motors 'F7'

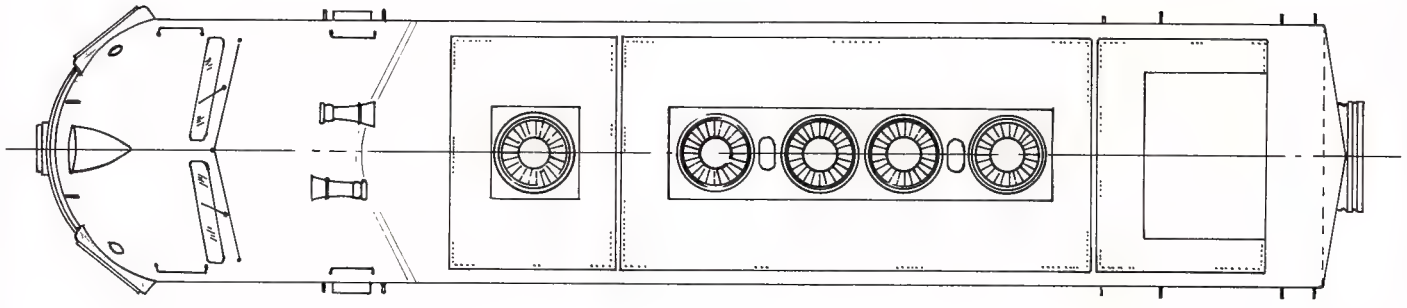
A genuine American locomotive in service 'Down Under'.



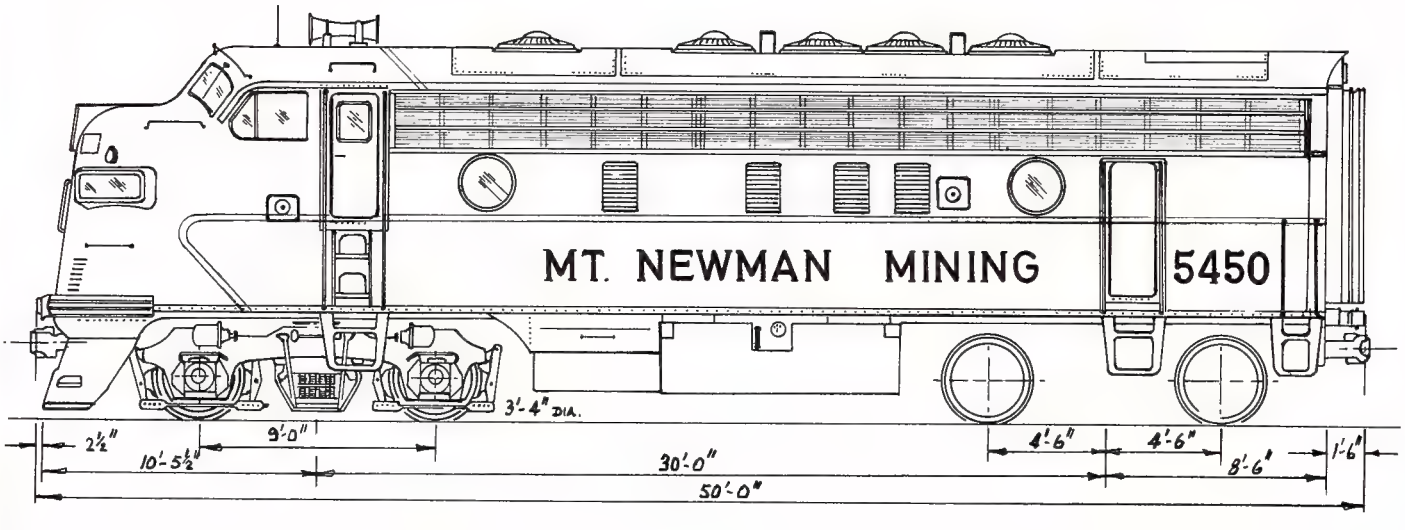
Athearn F7 converted by Laurie Williams. G. Ball photo.







MT. NEWMAN F7 Drawn by: Ray Love HO Scale.



The General Motors F-7 locomotive has been described as the most numerous class of diesel locomotive in the western world. The locomotives were built by the Electro-Motive Division of the General Motors Corporation during the period 1949 to 1953 when almost 4,000 were built. Despite its appearance it was a freight locomotive, although it was widely used on passenger trains. The F-7 was the fourth model in the line of G.M. cab type freight locomotives. The line commenced in 1939 with the 1,350 h.p. FT, the second model was the F-2 of equal power which was built during 1946. The F-3 of 1,500 h.p. was built from 1946 to 1949, when the F-7, also of 1,500 h.p., replaced it. The final model was the 1,750 h.p. F-9 built during 1954 and 1955. After 1955 G.M. concentrated its efforts in the road switcher style of locomotive, only recently returning to the cab style of locomotive with the F 40 PH.

The F-7 locomotives are powered by the G.M. 567B V-16 diesel engine. It is interesting for Australian modellers to note that some of the earliest Australian diesel locomotives are the F-7 locomotive adapted to suit local conditions. These locomotives are the Australian National Railways (then Commonwealth Railways) GM-1 class and the Victorian Railways B class. The later A.N.R. GM-12, V.R. S, and N.S.W.R. 42 class are essentially F-9s.

In the United States the F-7 locomotive was used practically by every railroad. The Western Pacific Railroad in 1968 sold two if its obsolescent F-7s to the Mount Newman Mining organisation for use in the construction of the Mount Newman iron ore railway from Port Hedland to Mount Newman. They carried the numbers 5450 and 5451 which seem to have been their numbers on the Western Pacific. The locomotives were initially used during construction and were then relegated to shunting work. They now are not used and stand in a derelict state at Port Hedland.

The modeller of Australian railways can use that old Athearn or Tyco F7 he has had lying around from the days he started with the hobby, and by simply repainting it have a useable locomotive.

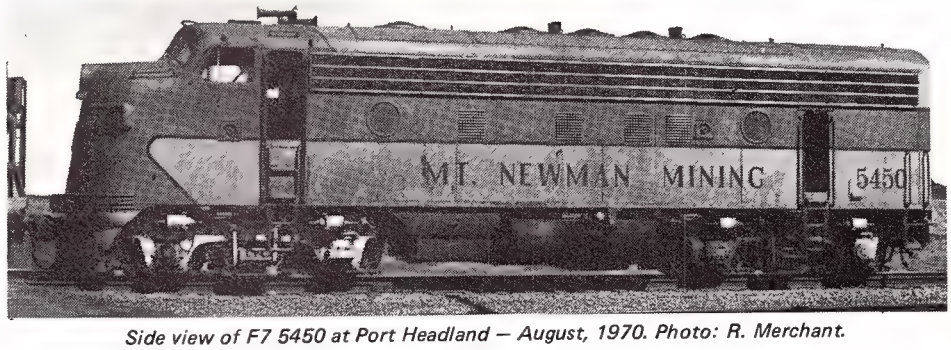
Although not having colour photos to work from the three known basic colours are red, yellow and silver. The body is red, with the top and bottoms of each side in yellow. A black line separates the two colours. The back is also yellow. It is assumed, from the photos, that the roof is also red. The bogies and fuel tank is silver.

The colour of the yellow could be described as Caterpillar (as in tractors) Yellow and International (as in trucks) red.

Acknowledgement for the compilation of this article to John Bevan, Allan Brown, Laurie Williams, Ray Love and R.I. Merchant.

Three-quarter view of F7 5451 at Port Headland — August, 1970. The loco coupled with it is an Alco Century 636. Photo: R. Merchant.

Three-quarter rear view of F7 5450 at Port Headland — August, 1970. Photo: R. Merchant.



Side view of F7 5450 at Port Headland — August, 1970. Photo: R. Merchant.

ROADSIDE HOARDING & "GOLDEN ARROW" RAILMOTOR

The hoarding is made from 14 match box covers glued onto a 310mm x 75mm x 3mm sheet of balsa and the letterhead of Radio 4KQ — (Brisbane) glued onto a headpiece 100mm x 20mm x 3mm balsa sheet.

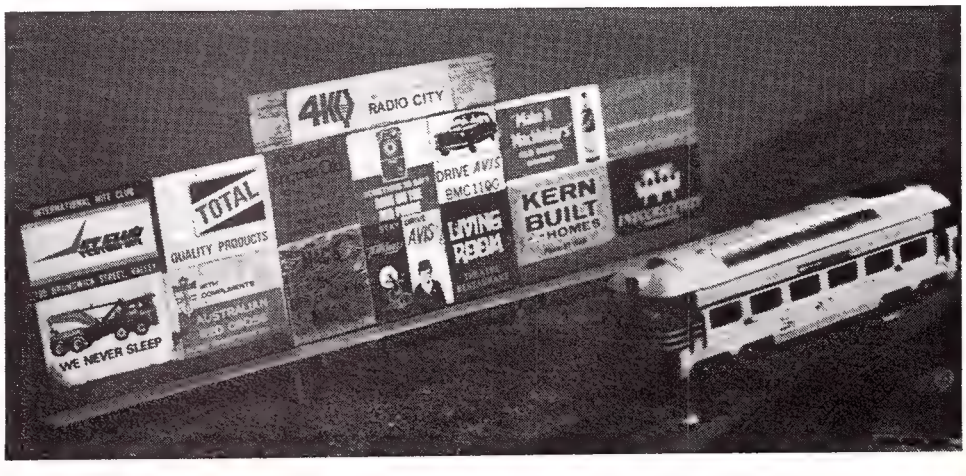
Four 75mm high "A" frames (made of 5mm x 1.5mm balsa) with the horizontal bar of the "A" 65mm long support the hoarding. The bars extend 13mm past the frames to support the poster hangers work platform (12mm x 3mm x 310mm) which runs the length of the hoarding. The railmotor was made by fitting the sides of a Triang Transcontinental coach to a Lima model French "BO-BO" Double-ended Diesel.

The diesel body was cut behind the drivers cab and the coach side cut to fit.

The railmotor was painted yellow with black ends and black was also put along the exhaust ducts on the roof.

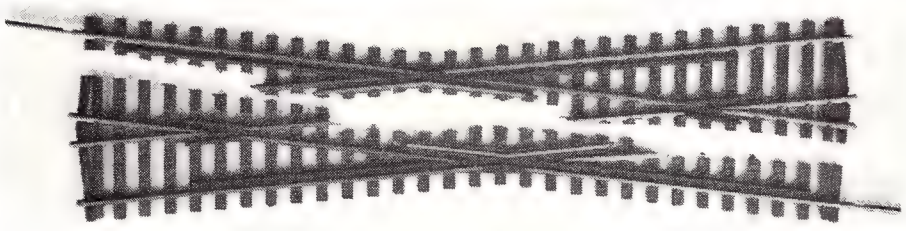
Triang "Golden Arrow" signs completed the Railmotor but uncouth club members call it the "Flying Banana".

Peter Kelly

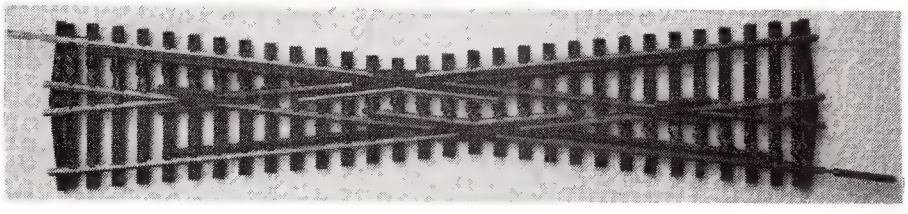


MIXED GAUGE CROSSING

Laurie Woods shows how to convert a H0 crossing into H0/H0n3½.



The crossing after cutting the sleepers.



The finished product.

Having an idea that one day it may be possible to run a 3'6" train on my 4'8½" H.0. layout, I have been on the look-out for ideas. It was my pleasure to visit the 1975 Brisbane Hobby Exhibition and was most surprised to see on the Queensland Division A.M.R.A. and H.0. layout, unfortunately when I viewed it an American freight train was running on the layout, whilst lo-and-behold an H.0.n3½ Queensland goods train was running on a T.T. Gem 12 mm track.

In the crush it was impossible for me to corner the attendant with so many questions, for here surely was the answer for me and also for any modeller of the Australian scene. Returning home with an exhibition catalogue I followed up the lead with a couple of phone calls, and then a further visit to Brisbane to meet and view the results of the A.M.R.A. production group, who are specialising within the A.M.R.A. (Qld.) division on producing and furthering the production of H0n3½ in general and of the Queensland Railways in particular.

Many thanks to those members whom I have already met; Arthur Hayes, Arthur Robinson, John McDicken and Little Jim (sorry Jim I didn't get your surname) and the wonderful hospitality and genuine desire to help another H0n3½ trier, and for the most friendly reception of all the questions I fired at them. The standard of the modelling, whilst being excellent and much more exactly prototypical than the Q.R. itself, is sadly suffering from lack of suitable equipment for scratch building; driving wheels only down to 4' diameter (many 3'6" gauge drivers were 3 ft. and less) T.T. Axles 12mm are fortunately available but bogies have either to be made or H0n3 bogies widened, whilst the normal H.0. motor will not fit within the loco's body and is too wide to sit down in the mainframes (oh, for another production run of Triang's motor which powered their model of Stephenson's Rocket) and for a supply of spares for their T.T. stock which ceased production many years back.

In the later diesels with longer wheelbase 2100 class and anything from about 1970 on; the Athearn S.D. 45 mechanism has been worked over and appears to be a definite possibility. I would suggest anyone looking for an SD45 body to work over might find Queensland to be overloaded with them, once they get the mechanism reduced to H0n3½ and working the track satisfactorily.

At home I sat and pondered over my layout; if I move those two storage roads out of there, maybe I can get in a station (H0n3½, of course) and if I come round here I can put in a whistle stop and small siding, then round here I've got 3 bridges. Maybe I can put another one. Maybe a bascule rolling lift bridge similar to the one in Hobart which guards Constitution dock and also carried the road across the water. Then if I remove a couple of planned industries and forget some village houses, I could put another small station, and following my wharf road round I could end up back where I started; this would give me about 50ft of main line, 1 large station, 1 smaller station and one whistle stop. That's beautiful. I will have the track, then I will have to build something to run on it. Incidentally, from the two stations I have access to an engine turntable, good, I'll put a combined H0n3½ track in and run conjointly with H.0. on the turntable with combined engine shed. My mate tells me it won't work because when I turn on my H0n3½ loco my track will be out of alignment and I won't be able to bring the loco off again, perhaps some reader had the answer.

My second problem is my bascule type rolling lifting bridge, how can I use it for H.0. and H0n3½ with only 3 tracks and also road traffic. Any suggestions to overcome my problem would be thankfully received.

The third problem is the reason I'm writing this note. I had to cross my H.0. track. If I attempt to go over I would lose most of my station yard. It would be prototypical for sure but it wouldn't look right as my station is already squeezed in the smallest section. If I cut through the wall and dare mention pinching just a little of the sewing room, then there won't be any H0n3½ and I'm feared perhaps the H.0. may lose out on some more up-to-date engine power required like a Berg 57 when it arrives, anyway who mentioned the sewing room, let's just forget it, but just in case this suggestion comes home to roost, I suppose I had better buy the B. . . paint, and offer to paint the B. . . sewing room, you understand fellers. Anyway the nearest I could get and have it looking right was to use a Peco long crossover as it gives me the angle I wanted, but how do I pull it apart and replace it in a correct manner. I looked at the problem many times but was always frightened I would ruin the crossover. I plucked up courage and started slowly by pulling one piece of rail out then sliding it back in a couple of times, and so with a little more study and confidence I thought if I can cut right through the middle of the H0n3½ section I should be able to close it up to the correct gauge and it will be right.

I cut only the plastic sleepers not the rail and I cut the sleepers down one side as close to the plastic railholder as I could, then by pulling (pressure must be exerted in the direction of the H.0. branch) away from the cut section you will find that the rail will slide out from the frogs in the H.0. branch. Cut these two pieces of rail on the square end leaving an exact length of track, which, after the sleepers have been shortened, will slide back into position, giving the exact spacing on the H0n3½ branch. The length of track to be cut off depends on the angle of the crossing and can only be measured correctly before placing the separate parts back togehter. Remove, on the H0n3½ section of the crossing, 3 single sleepers by cutting the plastic joining under the rail at the end of the plastic check rail, then slide the double sleeper from the end of the H0n3½ crossover up to the sleeper at the end of the check rail. Remove 3 single sleepers from the other end of the H0n3½ crossing and slide the double sleeper into position as before.

Now the most important part. Securely fasten one piece of the crossover on a board then pack a piece of Peco sleeper under the other piece of the crossover and slowly slide the top one into position until you obtain the correct gauge on H0n3½ crossing. The sleepers at this stage are equally matched all through the crossing. Fasten the second portion securely securely in position and then trim the sleepers very very carefully and neatly to butt-fit to the sleepers of the bottom section. After this has been done it should be possible to place both sections on a flat surface and carefully slide the rail, which you previously shortened for the H.0. track into position by exerting the pressure in the direction of the H.0. crossing and the two sections should come together in a proper fit. Check very thoroughly that the gauge is right and if it is not right make it right. Check with your rolling stock, and only when it is perfectly gauged, and only then, with everything securely fastened, glue or fuse all sleepers together. Proceed slowly and think and plan the job thoroughly before starting. It's an easy conversion if done with care, but it is expensive to ruin the crossover through trying to do the job in a hurry.

P.S. Somehow word got out about the sewing room and it has cost me the price of a C38 for a new sewing desk, fair dinkum a feller can't win.

POINTWORK TEMPLETS

I have often heard stories about draughtsmen types who have drawn up a beautiful scale plan on a 12" x 8" piece of paper, purchased the points and when it is all scaled up on base-board, found that half of the points they have purchased are now the wrong radius. This has never happened to me because I could not have drawn it up anyway.

The method I use is to identify what space I have, e.g. 7' x 2½' x 1-7/8' x 3-9/11' x etc., and try and fit something into the area. This method works best if you have an infinite supply of pointwork on hand. However, few of us can afford this so the next best thing is to have a templet for every conceivable point configuration.

The problem is that to my knowledge they are not readily available and cost money when and where you can get them. However, you can make them yourself, simply and cheaply. Take your particular 3-way number 6-frog point and go along to your friendly 'foreign order' photocopier. Place the point work, track down sleepers up, on the copier, cover with white paper and engage the copier. The result should be a near to perfect templet, depending upon the type of copier. The new dry 'bond' copiers are best.

The problem of photocopiers producing out of scale reproduction is not so great when dealing with the full sized article, but this can be minimised by placing the longest dimension across the page and keeping the whole thing as near to the top of the page as possible. However do not photocopy photocopies, as this will compound any error. The errors on original copies is not great, our machine is out 2mm in 250mm.

The process described above has been of considerable use to me, I hope it is of use to A.M.R.M. readers. In order to expand your library of templets, merely photocopy each new item of pointwork you or your friends purchase and soon you will have a templet for every piece of pointwork available.

Phil Collins

AUTOMATIC OPERATION FOR UPPER QUADRANT SIGNALS

Continuing his article on Upper Quadrant Signals, Ken Foran explains in detail the automatics of the operation.

At the 1975 exhibition at the Sydney Town Hall, the Model Workshops group presented a HO scale layout based on the prototype of Menangle, a township of the N.S.W. main southern line south of Sydney. One of the features of the layout, which was then incomplete (is a layout ever totally complete?). Whereas in 1975 only four of the signals were functioning, all were operating by 1976. I have described what I set out to achieve, and the construction of the signals themselves appeared in an earlier issue of "A.M.R.M." (No. 80, Sept./Oct. 1976). In this article I will describe the methods used to produce satisfactory automatic operation of the signals.

Sources of materials

If anyone has any difficulty obtaining the 0.0076" thick, 35 ohms per yard nichrome wire for the signal element, they will find that it can be obtained from A. F. Bambach, 52 Parramatta Road, Stanmore, N.S.W., while the glass tube used to enclose the element is known as Micro-Haematocrit Capillary Tube and is obtainable from Gelman Clemco Pty. Ltd., 2 Whiting Street, Artarmon, N.S.W.

Wiring and Circuits

I will first explain the winding of the sensor coils, and the circuits required. Desiring to use available materials, keep cost low, and produce a rugged mechanism, I devised a module type construction which contained all the components in one unit. The supply, interconnecting wires and signal itself were all on plugs and spring terminals, which facilitated quick and easy replacement in the event of failure. As the signals were intended for use on an exhibition layout, the fact that if a signal failed it could be quickly replaced, and repaired when time allowed was a great advantage, particularly when someone with no great electrical knowledge was operating the layout. The module concept also had the advantage of keeping layout wiring to a minimum, and meant that a signal location could be moved quite easily if desired. I encircled the layout with an eight core flex and cut in and soldered an octal plug close to each proposed signal location.

Relays

The first consideration was what type of relays to use, and the P.M.G. type was selected because of availability. It was decided to use 32 volts as being the main controlling voltage (although voltages up to 50 could have been used) because 32 volt transformers are more easily obtained. Direct Current (D.C.) was obtained by the use of a simple silicone diode bridge rectifier, obtainable at most electronic stores. The actual current rating of the transformer and the rectifier should be a couple of amps in excess of what is actually needed, to prevent overheating and possible short circuit damage. A fuse was added for direct short circuits and should be just big enough to handle requirements.

Expected current drain can be estimated by using Ohm's Law formula:

$I = \frac{E}{R}$ where I = Current, E = Voltage and R = Resistance of Coil.

For example, assuming voltage is 32 and resistance of coil 1000 ohms,

The Current = $\frac{32}{1000}$ = 0.032 Amps

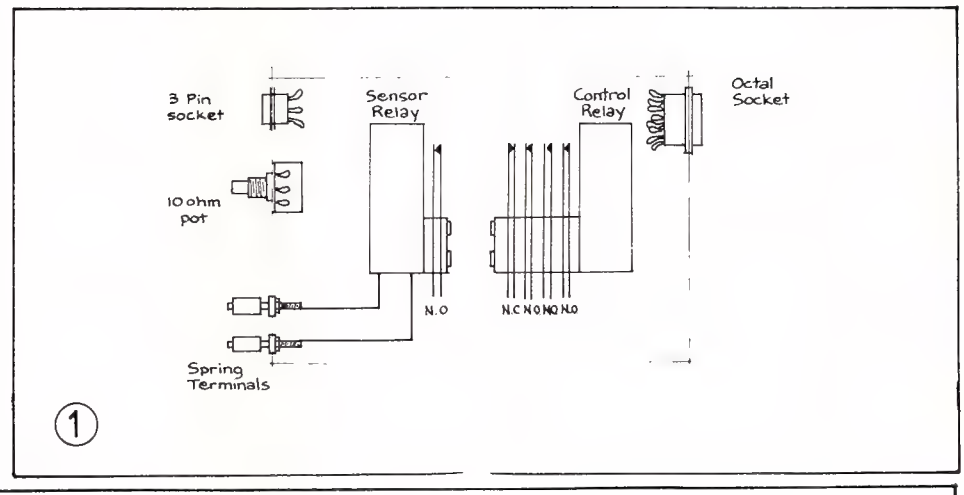
Work out the current of all the control relays that would be operating at once, add all the answers together, and you obtain a fair idea of the current requirements of the system.

Resistances and Sensor Relays

The resistances of the control relays (D.E.F.) could have been anywhere between 400 ohms and 2000 ohms and, as can be seen in the diagram, require 3 normally open (N.O.) and 1 normally closed (N.C.) contacts. (Normally means when the relay is de-energised). One N.O. contact feeds its own signal element. One N.O. contact back-feeds to the previous signal for the caution position. The N.C. contact is to de-energise the previous control relay. Extra contacts could be added if required and wired back to a light in the control panel for use as a train location indicator.

Sensor relays (A.B.C.) were completely stripped of windings (I used any odd resistance values that were of no use for anything else.) These were then rewound with 3½ to 4 layers of No. 20 gauge enamelled copper wire. No. 19 gauge would also be satisfactory.

Although only one set of contacts were used on this relay, the others were left on to help



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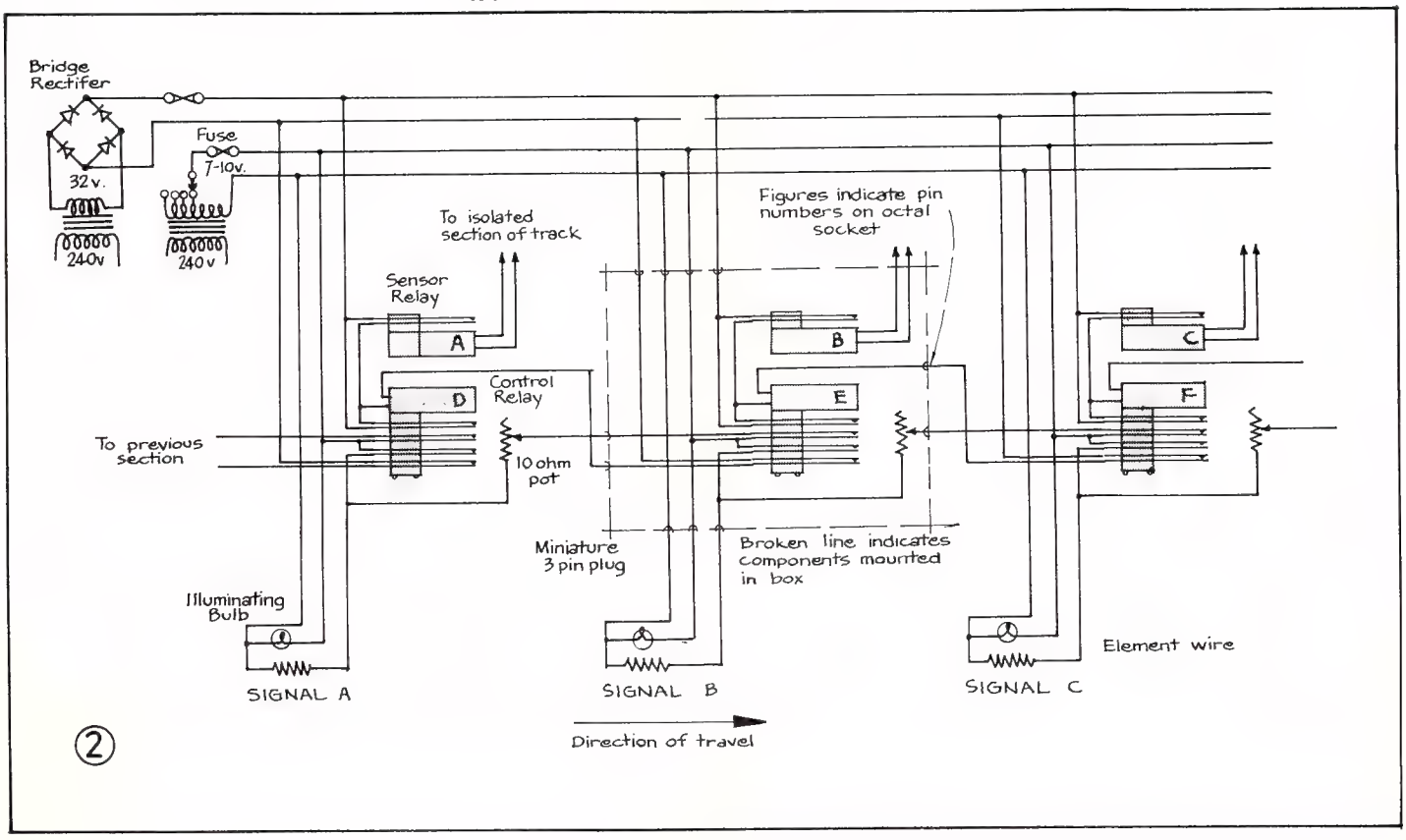


2

adjust the spring tension, these being bent out in turn until the smallest locomotive on the layout could pull in the relay. If the tension is made too weak the armature of the relay could stay in with residual magnetism after the loco had passed. These coils have approximately ½ to 1 ohm resistance and do not appreciably slow the locomotives.

Components

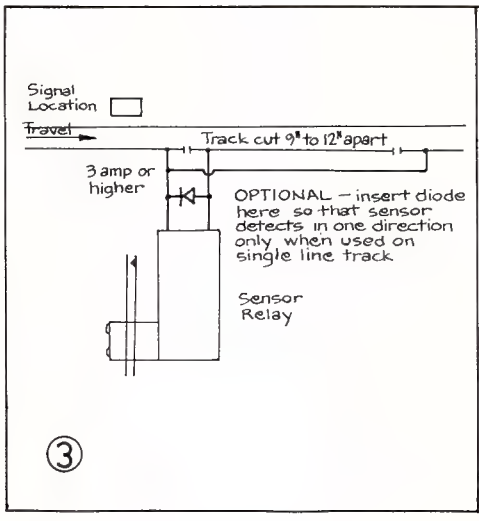
As for the rest of the material, I used a radio octal socket and plug to connect all supply voltages and interconnecting circuits to the module, and a miniature 3 pin plug and socket for the signal. (It must be small enough to go through the hole in the baseboard made for the signal mechanism.) A pair of spring terminals is used to connect the sensor coil to the track circuit and a 10 ohm 3 watt wire wound potentiometer, used for setting the caution position. As can be seen in Figure 1 all these components were mounted in an open tin box for convenience, internally wired and screwed beneath the baseboard in close proximity to the signal location. On a permanent layout the module system could be eliminated and the relays wired in permanently. It would still, however, be wise to retain the small plug connection for the signal itself as it facilitates easy removal for maintenance.

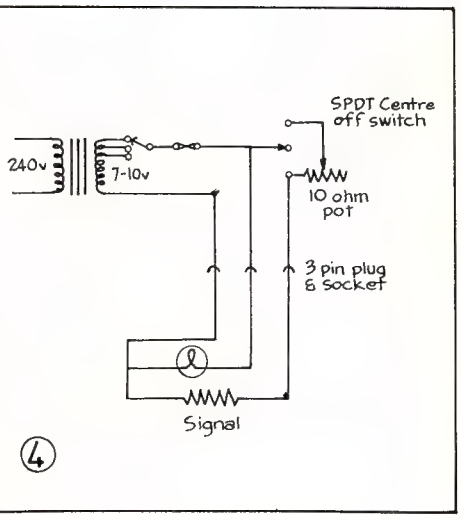
The Transformer

The transformer used for supplying the signal element was then selected. As A.C. or D.C. works equally well for just heating an element and lighting a bulb, rectification was deemed unnecessary, so only a fuse was added for protection. As the exact voltage to operate the signal may vary slightly from 8 volts, due to cold draughts, stiffness in mechanisms, long runs, etc., it was thought necessary to provide some means of varying the voltage. Having a 12 volt transformer on hand I decided to use this as a basis. The ideal way to control it would have been to use a "variac" to control the primary voltage, thus controlling the output. Not having one I decided to provide a series of tappings from about 7 volts to 10 volts.

This was done by stripping back the outside insulation down to the enamel wire, making sure that this is in fact the last layer of the secondary winding. Check by noting where the leads come out the side. Generally the primary (240 volt) is the winding closest to the centre, and is usually thinner than the secondary. Scrape a small area across the windings exposing the copper wire and measure the voltage between adjacent turns and the start of the secondary. It will probably be found that about ½ to 1½ volts will be possible between adjacent turns. Start at about 7 volts and solder a lead on the exposed turn and bring out to a terminal. Adjacent turns are then treated the same until a voltage of about 10 volts is There should be now enough tappings to ensure that full movement of the signal arm occurs without being too fast and the illuminating bulb too bright. The current rating of the secondary must be large enough to run all signals which would normally be in use at the one time.

Calculate the stop position as 1 amp and the caution position as ½ amp. It is a good idea then to go about 2 or 3 amps higher to allow for extra signals and provide for better regulation of the transformer.


Signal Location
Travel
Track cut 9" to 12" apart
3 amp or higher
OPTIONAL – insert diode here so that sensor detects in one direction only when used on single line track
Sensor Relay
3



The System in Operation

Referring to Figure 2, the theory of operation is that as the locomotive passes over the isolated piece of track which is situated just past signal A, which can be anywhere between nine to twelve inches in length, (the piece of track, not the signal) the power to drive the loco then has to pass through the coil of sensor relay A. This pulls in and applies 32 volts D.C. to control relay D, which pulls in and stays in because of its own retaining contact and normally closed contact on control relay E, even when the loco passes the isolated section and sensor relay A drops out. With control relay D energised approximately 8 volts is then supplied to the signal element, which makes it heat and expand, thus bringing the signal arm to the stop position.

When the loco proceeds to the next isolated section, which is just past signal B, sensor relay B is energised. This brings in control relay E because of reasons already explained. With control relay E energised, control relay D drops out, because of lack of supply due to the normally closed contact on control relay E opening. The supply to signal A element is thus cut and signal A starts to return from the stop position. Relay E also supplies approximately 8 volts to signal B element, bringing signal B to the stop position, and relay E also backfeeds approximately 8 volts to signal A element via a 10 ohm potentiometer, which is adjusted to reduce the voltage to signal element A to result in signal A assuming the caution position.

When the next section is passed control relay F is energised, bringing signal C to stop. It also backfeeds to the element of signal B via a 10 ohm potentiometer adjusted to reduce the voltage and bring the arm of signal B to the caution position. Control relay E drops out, which cuts off the caution supply to signal A, bringing it to the all clear position. This process is repeated all round the track. If single line operation is required, a diode of about 3 amps is shunted across the coil of the sensor relay (see Figure 3). This effectively short circuits the coil in one direction only, thus preventing the relay operating when the locomotive is travelling in the opposite direction.

The isolation section may be cut in either rail just past the signal and about 9 to 12 inches in length. A simple test rig is shown in Figure This is quite handy in adjusting the signal before installing it. Similar circuitary may be employed to operate the signals manually or in conjunction with point movements. The switch shown is a single pole double throw centre off type, but two ordinary switches would perform the same function.

AMRM NEWS

Compiled by Bob Gallagher and AMRM Staff.

Once again, as we go to press, we are beset with a mail dispute which holds up advertising copy, in turn making the issue late. A quick check of recent mail disputes will show that they occur at two month intervals, always coinciding with our deadlines. If, by any chance, one of our readers is a postal union executive, we request that he use his influence to move the dispute dates away from our deadline dates.

57 Class

At last a major shipment of the NSWR D57 class models has arrived from the land of the rising sun. As there was not sufficient models to supply all orders, Berg's Hobbies were faced with a problem which was overcome by ballot, and conducted in the presence of AMRM Editor Allan Brown and AMRM photographer Graham Ball. This topic will be discussed further in future issues.

Workshop 5 Models

Last issue, due to an error by AMRM staff, the Workshop 5 Models advert was a little misleading, for the text of the advert indicated that the "CR" coach was equipped with a toilet. This is not true, but we are lead to believe that the omission was due to the inability of scale sheets of toilet paper being made and added to make the scene realistic.

Calling "N" scale modellers

AMRM is seeking guidance from "N" scale modellers who follow Australian prototype. In the future we aim to reproduce some plans in "N" scale; but which scale is the most common used? We ask "N" scalers to write and advise the scale they model in, ie 2 mm or 1/160 or 1/148, and what prototype they follow.

New name

Readers may be interested in learning that Country Aquariums and Hobbies are now trading as RAILMAIL.

Complete addresses are required by RAILMAIL so that orders and correspondence to the following persons can be finalised.

Mr M. Varne (Fremantle), Mr F. C. Clarke (Macquarie), Mr G. A. Rose (Dungog), Mr T. C. Borgonah (Haig TAR), Mr K. Coleborne (WA), Mr S. A. Cucor (Moonah), Mr G. Hall (Randwick).

RAILMAIL formerly traded as Country Aquariums & Hobbies. Their address is PO Box 152, Wellington, NSW.

Rumours

There seems to be among our readers a number of people who achieve great delight from manufacturing malicious rumours, aiming them at anyone they want to and then pin the origin of the rumour back to this magazine. These acts are spiteful and we at AMRM can assure all readers that unless notations are read in our pages, any rumour being bandied around is most probably not true.

Woolsheds

Ever felt like modelling a woodshed? A book "Woolsheds of the Riverina" by Peter Freeman is going to be published soon. In the July '77 issue (Vol. 66 No. 3) of the magazine "Architecture Australia" is a 15 page excerpt/ preview of the forthcoming book. There are enough photos, drawings and detailed plans to build several sheds. Judging by appearances, the book should be a beauty. If the $3.60 cost of the magazine deters you, try your local library.

Sydney Exhibition

Despite rumours to the contrary, the Sydney Model Railway Exhibition is still on at the Sydney Lower Town Hall as advertised from October 1st to 3rd.

Commercial News

The last couple of months has seen a few happenings among the trade. George Bray has taken over management of Kev Ryan's Hobby Centre at Miranda. To be known as The Model Railway Centre, George expects the shop to be open every day, and Thursday nights, from October 1st.

Eric Smith, recently of Berg's Hobbies, can now be found at Mansfield Hobbies at Waitara.

Cliff Searle has relinquished control of "Searles" and is the importer of LGB.

McBee's, the mail order people, can now be found in a shop at Preston.

At long last Kadee couplers should be easier to obtain, for they are now handled by AMRI. The only problem is now to find out who handles AMRI equipment.

A warm welcome back to Doug and Gill Bocking of Workshop 5 Models, who have been holidaying in their English homeland.

The impossible is what nobody can do until somebody does it.

MAILBAG

Sir,

In the March/April issue of the 'Australian Model Railroad Magazine' Mr R. Gallagher invited comment on a paragraph in 'AMRM News' regarding model railway gauges and scales and the use of these terms.

There is no doubt that a lot of railway modellers, and I include myself in this group, do refer to HO gauge when we really mean HO scale. This, I believe, is a carry-over from the earlier days of railway modelling when O gauge was about all that was availabel. Then, you referred to your layout as an O gauge layout and not an O scale one, and so the habit stuck.

Of course, at that time, the models available were all intended to represent standard (4'8½") gauge prototypes, and so O gauge and O scale could reasonably be taken to mean the same thing, as O gauge was close enough to standard gauge to O scale. Similarly, in the early days of HO scale, standard gauge locos were the only ones modelled, and so when you said that you had a HO gauge layout it was understood that you really meant a layout representing a standard gauge railway to HO scale.

Now this was all very well whilst the models that were available represented standard gauge locos only, but then modellers began to look outside this gauge, and to produce models of locos of other than standard gauge. These models, while to say HO scale, were of course not to HO (16.5 mm) gauge, and so could not be called HO gauge models, nor even just HO models.

Much of this non-standard gauge modelling was based on narrow gauge prototypes, often of the common North American narrow gauge of 3'0", which in HO scale could be reasonably well represented by a track of 10 mm gauge. Locos and rolling stock modelled in this way were designated as being to HOn3 scale, 'n' indicating 'narrow gauge', and '3' indicating the full size gauge of three feet. Similarly, 12mm gauge track was utilized as a basis for modelling 3'6" gauge equipment to HO scale, designated HOn3½, as was 9 mm gauge for 2'6" stock, designated HOn2½.

Now it would seem that the use of this system is a logical way to indicate that a HO scale loco does not necessarily run on 16.5 mm gauge HO standard track. This system could be, and may even have been, expanded to include gauges wider than standard by the use of 'w' instead of 'n', giving a designation such as HOw5 1/4 for models of Victorian, South Australian and Irish prototypes, and so on.

However, there are a couple of comments that should be made about this system. As it originated, to the best of my belief, in the U.S.A., it uses a gauge indicating figure based on the actual full sized gauge in feet. Here in Australia we have now gone to the metric system, and whilst many of us still think in feet and inches we should consider that in a few years time modellers will be thinking and working solely in metric measurements, and these 3's 3½'s, 5 1/4's etc. will have little meaning for them. To fall into line with the metric system it would be necessary to convert these feet figures to their metric equivalents. This, whilst no real problem, would give rather cumbersome designations such as HOn1067 instead of HOn3½ and so on. Another comment that can be made about this system is that while it does indicate that the gauge of a model loco to HO scale is not necessarily 16.5 mm, it does not actually say what that gauge is, but only tells you what the gauge of the prototype is.

I think that the best way to indicate the gauge-scale relationship of an item of model railway rolling stock is to firstly quote the scale of the model, then the actual gauge in millimetres of the track on which it can be run. This then would give a designation such as HO 12 for a HO scale model of a loco running on 1067 mm (3'6") gauge track to HO scale. This may sound a clumsy way of saying a HO scale model of a 3'6" gauge loco, but the following item may explain my reasons for putting the statement in that way. Most of us are familiar with the Japanese made brass models of U.S. locos that we see in the shops here. In Japan, brass loco models are on sale there also, but these are models of Japanese National Railways 3'6" gauge locos. These models are to HO scale, but run not on 12 mm gauge track as they should to be correct HOn3½ models, but on standard 16.5 mm gauge HO track. Thus if we say that in my system HO scale locos running on 16.5 mm gauge track are designated as HO models, without any track gauge indication, these Japanese models would be so designated. As far as I know there is no commercial production of JNR HO scale locos to the correct scale gauge.

Certainly I feel that there is a definite need to indicate in advertisements and the like not only the scale of a model locomotive, but also the gauge of track on which it can operate, and I feel that the system suggested above is the simplest method of doing so. It of course does not apply only to HO, but to all scales.

W.A. Pearce,
Kensington 3031.

Sir,

In reply to Eric Wood, who feels that Lima's 38 is better off in the shop, I would suggest that although the tender is not accurate, you should not let this spoil your enjoyment. File the detail off the back, or buy a Friedmont or Workshop 5 tender, and you have a good model. Buy the streamlining kit and you can run two.

Next comes the matter of value for money. While I appreciate the work involved in developing a model I am wondering if the Z18 and 25 kits are value for money. I have been tempted to buy a Z25 but as they are small locos, of limited prototypical use, I am having difficulty in justifying the expense of around $70. The Protype C30 has at least greater rostering potential than a 25.

My final comment is, I hope, a little less provocative. Why doesn't someone produce an accurate model of a C32 for those who cannot afford a roster of brass locomotives? This is a popular locomotive and could be used on most layouts (even Transcontinental). Having done this the manufacturer could then produce a D50 or D53 using the same tender and locomotive body above the running plate. The only problem would be keeping pace with demand. How about it Lima or anyone?

L. Batten
Glenfield 2167

This letter, unfortunately, is a fine example of what many Australian modellers think. Big locos pulling small trains on small layouts.

In this country the large locos, ie H220, D57, D58, C38, were restricted to mainline usage and in many instances modellers just cannot recreate a layout to give even a small impression of this capacity. On the other hand small locos, like Z18, Z24, Z25, C30T, etc., were used all around the state system on the branches, hauling small trains, that usually can be modelled in the space available to modellers. The Z25 alone saw service for 80 years and the 70 in the class covered nearly all NSWGR lines. On the other hand the C38 was restricted in usage as was the C30.

Unless the NSWGR/Aust. modellers realise that it costs as much to make a small loco as a big one this hobby will die, for the big loco is useless unless one has a 30×15 layout. (It looks like a toy pulling 2-4 coaches.)

There is no doubt that the manufacturers of kits in Australia will eventually get around to a C32, that is if they get the support of the modellers. The C32 could not be made soon for Berg's Hobbies have announced a re-run of the brass C32. That would take the need for a kit away. The local manufacturers need support. If you have a preference for a special loco write to them pointing out your preference, it may help their choice of models.

Ed.

Sir,

I would like to make a couple of points about items appearing in the May/June and July/August issues of AMRM.

Firstly, as regards the availability of NSW Freight Blue paint. I bought a bottle of Floquil Rail Blue at the 1977 Melbourne AMRA Exhibition. Apparently this particular colour is intended for the British market as British Railways Blue which as "Flash" states is spot on for the NSW colour. The Floquil product has the advantage of superior opacity and ease of application in common with the rest of the Floquil range.

My second point concerns the method of thinning paints in fixed proportions as described by Rod Paxton. No doubt in theory this is an excellent method of ensuring that repeated batches of paint come out to be the same colour, but I wish to raise some practical difficulties which may arise if modellers untrained in the art of "pipetting" attempt this technique. It is not easy to suck paint or thinners up a drinking straw with sufficient control to ensure that the substance being sucked stays in the straw and does not get into the mouth. I raise this point because I feel that I am reasonably qualified to do so. I am an Industrial Chemist by profession and in the laboratory where I work with chemicals of much the same type as those found in paints and thinners, the oral pipetting of any chemical is absolutely prohibited because it is unsafe; I make no bones about it, the chemicals found in paints and thinners are poisonous. I cannot stop anyone from using this technique if they wish to but I feel that at least they should know the dangers involved. I know all about oral pipetting because I used it on a daily basis before I joined the company I am presently with: I would never even entertain the thought of sucking paint or thinners up a paper straw.

The AMRM News in the July/August issue mentioned the fact that because of inflation the choice of paying more or getting less may soon have to be made. I have previously made it clear how I feel about the excellent quality of AMRM lately and I wish to state publicly that I would be prepared to pay up to $1.00 per issue if I was assured that both the quality and quantity in each issue were to continue.

Congratulations to both Neil Graham for his Comrails Kitbash article and Leon Oberg for his magnificent photographs of CL1. Without trying to sound too much like a Rivet Counter (which I am anyhow) I feel Neil's model would have looked a lot better had he used the correct "Condensed Gothic" style of lettering on the side of the locomotive rather than the incorrect Gothic style. Comparison between the prototype and the model shows what I mean.

Rodney J. Parry
Footscray West 3012

"Flash" assures us that he has not seen Floquil's B. R. Rail Blue in any of the Sydney shops, nor have I. Seems as though Melbourne leads Sydney with some things! If procurable, by all means use it.

Regardless of what style of lettering is used on the CL, the main point is that the A does not have a pointed top. Actually it is an upside-down U with a bar.

Syphoning any kind of paint thinners through a drinking strawer is indeed dangeroous practice, and we totally discourage it. Stick to Fosters or Resch's. It's not so dangerous and a lot more rewarding.

Ed.

Sir,

Has anyone found a successful method of getting that rusty look on and around the smokebox of steam locos? I have tried lots of methods and the results look terrible. As well as my own experiments I have used the Floquil "rust" but it just does not look right.

Hoping there is a reader somewhere that has perfected a good method.

Neil Graham
Newtown 2042

Sir,

Re Inflation and AMRM.

For the modeller of Australian prototype AMRM is the focal point of exchange of information, the hub, a means of identifying oneself as part of a group, an amalgam, a melting pot, a source of inspiration, a central voice, an essential part of Australian modelling that must be continued.

The boom of model railroading in the US is largely due to the "Modelrailroader". The serious American modeller has benefited from the NMRA standards and proliferation of proprietary lines.

The AMRM today shares many of the ideals of the early MR. Success depends upon unity, a striving for a common goal. The editors and contributors have supported the magazine to date. It is time for the readers to evaluate the long term benefit of promoting the hobby through this magazine and shelling-out a few pence extra. From my point of view, double the price would still represent the best value for money investment for any modeller.

Warren Benedict
Adelaide

Sir,

In the July/August edition of AMRM you asked for opinions on raising the cost versus a smaller magazine. I believe that you have now developed one of the world's best model railway magazines. To reduce its content will affect its standard and it would wither. I therefore strongly support an increase in price as the correct action.

J. W. Huggett
Box Hill 3128

Sir,

You asked for comments on the magazine in AMRM NEWS in July/August edition. All I can say is that I enjoy the magazine and I read it from cover to cover in a few days. I also look for the reviews to see what is available in new rollingstock and I especially liked the article on the Commonwealth Railways "CL" diesal. Keep this prototype plan article up. Although I'm not a scratchbuilder, I'd like to meet someone who can show me how to do it, but this is difficult being in a country town.

As regards price, it wouldn't worry me what the cost. I just enjoy reading it. Keep up the good work.

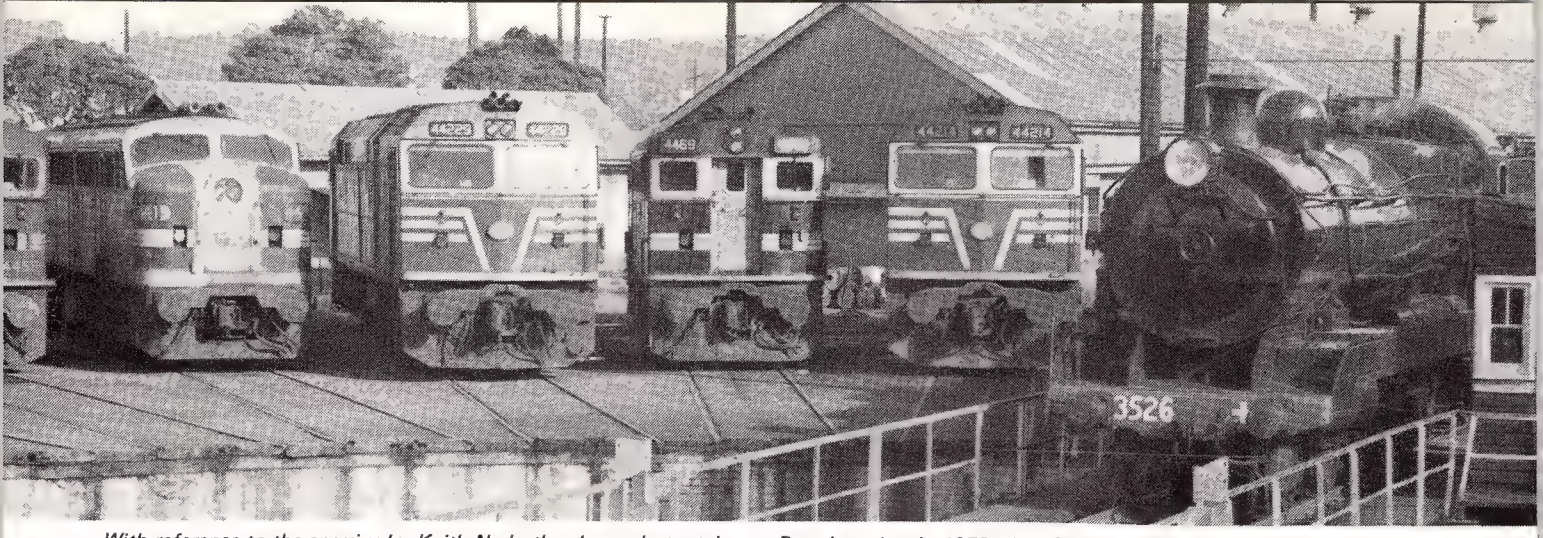
H. Reid
Dalby 4405

Sir,

In AMRM Nov./Dec. '74, a Jouef locomotive was reviewed. The loco was "SNCF CC 7107". At the end of the review, it was stated that the loco was similar to a NSW 46 class and that an article would soon be put into print to tell of the conversion. My question is, has this article since been printed in an issue I missed, and if so which issue, or if not, can you give a hint as to when it might be due.

Patrich Ling
Merrylands 2160

The promised article has not been printed, for the author who promised the article has not been forthcoming with it. Regrettably, this is common with many articles and even with modellers who offer to



With reference to the enquiry by Keith Nash, the above photo, taken at Broadmeadow in 1972 when 3526 was 'on tour', shows 4469 (4th from left) around the turntable, accompanied by 4458, 4415, 44229 and 44214. The photo and details were supplied by Ray Cross.

work on AMRM staff, for after they receive a project they disappear from the scene, in most instances taking articles or irreplaceable data with them. There is very little we at AMRM can do for we must take everyone at face value and this includes advertisers who refuse to pay their accounts.

Bob Gallagher

Sir,

On reading the article by Ian Cutter "Steam Era — South Australian Broad Gauge" I noticed an error which, for the sake of historical accuracy, should be corrected.

It concerns the Q class locos. At least one of these locos, No. 90 was in use until 1956, being located at Murray Bridge in its last days hauling trains on the local service to Tailem Bend, in among shunting at both yards as required.

It is only a minor point and in no way detracts from an excellent article.

A. D. Presgrave
Liverpool, NSW 2172

Sir,

In the May/June issue of the AMRM you reported on PIKO HO Double-deck Passenger Cars. I should like to inform you of a few facts causing me to write these lines.

1. These cars cannot be hauled by German Federal Railways Steam, because they belong to the East Germany-Deutsche Reichsbahn.
2. I can not recall having ever seen a train made up of multiples of twos. Usually units of four were used and sometimes a unit of two added to it.

These cars were not really built for long distances and therefore mainly in operation in industrial areas. Such as the Push-Pull service between Rostock and Warnemuende serving a major shipyard during shift changes and on normal commuter runs.

Another area of operations was on the Halle/S.-Bitterfeld-Wolfen line. This area being the industrial centre of East Germany for chemicals and other allied products, they were used quite regularly. In the late fifties traction was by electric power (E-44s) and they consist of two units of four. The only time I remember seeing units of six cars was in December 1963. There was an unscheduled special from Warnemuende right down to the southern border of the country. It was used to carry military personnel to their home towns all over the country. I had the (dis)-pleasure to hike a ride on this train while on leave from the Merchant Marine. The trip took twice as long as a normal run by express. However it was the only means of getting home in time for Christmas and after all that, it did not cost me a penny.

Hoping this letter has somehow destroyed your previous assurances given to you incorrectly.

Klaus H. Brodeck
Camberwell, Vic. 3124

When I make a mistake I'm the first to admit it, and in this case I made a beauty! Quite a few people have corrected me. Klaus is of course correct. It's good to find that so many people read the reviews. At least we're not wasting our time.

Ed.

Sir,

I am trying to build up a collection of Victorian Railways vehicles in N gauge but, as I live in Queensland, it is a very slow job without access to the real thing. Although the gross dimensions are easily obtainable it is almost impossible to ascertain the finer points of the prototype that go into make a good model.

Therefore I would like to enquire whether you know of any data sheets that might be available depicting VR diesel locomotives or rolling stock (other than the few that have been published in AMRM from time to time).

In particular, I am interested in locomotives of B, T, W, X and Y classes, and guard's vans of recent design.

Is it possible to obtain any plans from the Railways Department?

I enjoy reading the AMRM very much and I hope that you can maintain its high standard of presentation and content.

A. K. Scott
Mary Kathleen

AMRM is currently preparing some of the plans you are after but these will not be ready for some time. The NSWPTC Archives Department has a very wide range of diagrams, not only of NSW vehicles but also those of all other state systems. For a small fee a copy of the diagrams can be acquired. Send details/ requirements to Archives Officer, NSW Public Transport Commission, GPO Box 29, Sydney, NSW 2001.

Ed.

Sir,

Reading through the May/June issue of AMRM I noticed the review on the Roundhouse Climax loco (HO) by Allan Brown, where the loco is apparently not based on a prototype. Readers may be interested in its remarkable likeness to the Fairlies Patent. The E class double ended Fairlie loco introduced in WA in 1879. A fine photo of this engine can be found on page 70 of Patsy Adam Smith's "Romance of Australian Railways". Unfortunately no other information is given on it, but I note if you cut the Climax square across the centre of the cab door and join the two front halves together, put a 2-4-0 set of drivers and solid bogies under each end you'd practically have it. Really one for the scratchbuilder.

The book came from the city library so I guess someone could research it more thoroughly.

Robert A. Chalmers
Paddington, Brisbane

1977 CANBERRA EXHIBITION

The 1977 Canberra model railway exhibition was held in the Malkara Special School in early August. Organised by the Canberra Model Railway Club the main beneficiary was the school, which received nearly $2,000 out of the weekend, and the participating ACT model railway clubs. The organising committee obviously went out of their way to ensure a quality exhibition with the invitation and eventual exhibition of the "O" scale layout operated by Norm Read and Col Shepherd and "Menangle" (Model Workshops). The locals exhibited "Abbotsbury Southern" (Phil Knife), a large "N" scale "US" prototype layout (ACT Model Railway Society) and the first display of "Bargo", a NSWR main southern line station exhibited by the Canberra Model Railway Club.

Considering that "Bargo" has only been planned for less than a year, the resulting effort showed promise to a popular layout, once all the bugs are ironed out. Regrettably, the overall impression of "Bargo" was marred by part usage of non NSW rolling stock, and this should be a lesson for any group wishing to build a "specific location" layout, for the correct locos and rolling stock are as important as the layout, no matter what the club politics are. Despite what model railway judges say the viewing public is well aware of what represents a local train and they do tend to associate themselves with the railway in reminisce. An example of this happened at this exhibition when a daughter of a station master who was stationed at Menangle saw the model and proceeded to show one and all where she, as a child, played.

The trade was represented by Bill Webb, ARHS (ACT Division), Locomotion, The Model Shop and Bruce Block. While the stands were not of eye appealing display, the availability of products and information certainly benefited the enquiring public. Canberra Society of Model and Experimental Engineers used the good weather to advantage to display their many models, including operating live steam trains and a live steam boat.

The live steam trains included train rides for the young, but the organisation of the embarking for passengers was so good that only the strong could be guaranteed of a ride, even if tickets had been procured. Exhibitors must fully organise all facets of their display as did the "rickshaw" rides which took advantage of the road area.

One of the features of the exhibition was the competition, which must be among the largest in Australia. The many classes provided for the many models entered, most being of a very high standard, making the job of the judges (Peter Betts and Ian MacFarlane) harder. Although the competition was well organised, criticism must be levelled at the time it took the judges to finalise results, for the last section was completed only 15 minutes before the end of the exhibition, thus prohibiting the general public from observing the judges selection.

The best model of the show was awarded to a scratchbuilt NSWR D55 in HO scale built by Laurie Evans (this model is soon to be featured in AMRM), and the best layout was awarded to Phil Knife's "Abbotsbury Southern" which is featured in this edition of AMRM.

Overall it was a fine display — the layouts were cramped for space, but being held in school class rooms this was understandable. The organising committee, led by Phil Knife, is to be commended for such a high standard of display, certainly giving the 6,000 odd viewers value for the entrance fee.

Bob Gallagher

SOUTHERN CROSS MODEL RAILWAY ASSOCIATION.

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Boronia. 3155.
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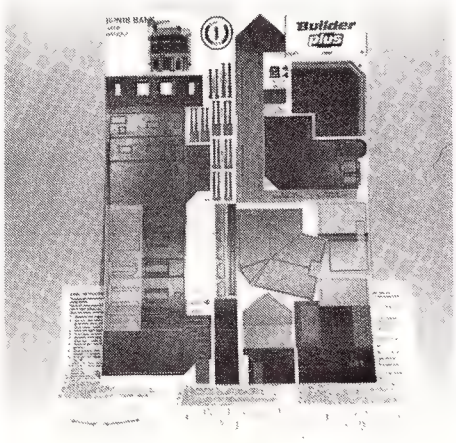
REVIEWS

Western Models Ltd (Auckland) loco water tank. Our sample purchased from Martins Ltd. P.O. Box 1966, GPO Auckland NZ. Price: NZ$1.50.

This metal structure is 75mm high; has a tank 23mm by 22mm wide; the stem is 52mm high and 6mm in diameter; the base is 28mm in diameter and has 2 holes drilled to allow fixing; the hose is 35mm by 2mm dia. The unit is neat in appearance and is painted in a mid-red, and would be at home among the paraphernalia of a loco depot, despite the fact that it does not resemble any particular Australian prototype.

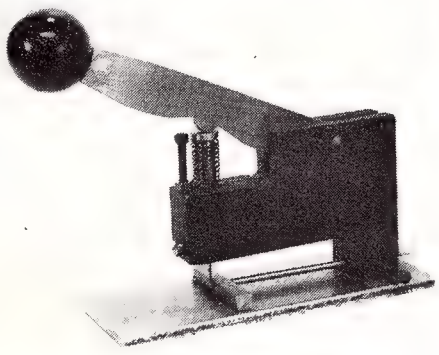
Bob Gallagher.



Builder Plus 2mm scale structure kits. Samples supplied by Zimbler Pty Ltd, 48 River St, South Yarra. Vic.

These kits are coloured printed card, mostly pre-cut. The range of British style structures is extensive, the manor house being reviewed in the July/August 1976 issue. At present 3 of the kits are being assembled, and comments on this aspect will be made upon completion. These kits are a quick method for compiling a township quickly although they seem to lack texture. Possibly this can be accounted to the smallness of the overall buildings. The colours are realistic, the lead glass windows on the church being a gem. As promised, more comments later.

Bob Gallagher.



The Western Rivet Press Tool. The sample was obtained from the manufacturers, Bristone Model Products, 242 Old Shoreham Road, Hove, Sussex. BN3 7EG. United Kingdom.

Over the years modellers have become aware of rivets on railway vehicles and have applied the detail to railway modelling. Many methods have been tried to obtain the rivets, some successful but many were not. In recent years the model trade has catered for the desire for realistic rivets and supplied rivet tools, the Western tool being but one.

This unit does not differ with the others in the manufacture of the rivet, being by press action. The difference with this unit is that all rivets can be of similar size, for a pressure or depth gauge/stop is provided. In size the unit has a base of 135mm x 50mm and stands 120mm high. The rivet is made by the downward thrust of the easily held handle; this action pushes a hardened punch through the material being worked into a die, the latter forming the shape of the rivet.

As indicated the tool has an adjustable stop that regulates the depth of the rivet, as well as adjustable guides to keep the rivet line straight. Correct usage will provide the rivets at uniform spacing. Adjustment of the tool is by screwdriver and Allen keys, the latter being provided. Some movement which would prohibit the correct line for the punch/die is evident, but correct alignment and full tightness in the setting-up of the tool would eradicate this fault.

Overall, a simple tool to use. It can be used with thin gauges of brass, tinplate, metal, nickel silver and styrene. The only obvious disadvantage is that it is extremely hard to obtain in Australia, hence the credit to the British exporter/manufacturer. As the tool is provided with two punch/die sets it is serviceable for both H0/00 and 0 scales.

Bob Gallagher.

Fleischmann track-diagram control panel. Samples provided by Bill Webb, PO Box 68, Figtree, 2525. Price in text.

A control panel is a must for every layout; some are made by the builder of the layout, and quite a bit of thought is usually put into the design, for a panel must be self explanatory if it is to be successful. To aid the modeller Fleischman has released a range of components that can be assembled to formulate a control panel. Basically, each component is of plastic structure, with provision for fastening to a board (for protection and strength) and each component will clip into any other so that a diagram of the layout can be set out. Among the components are point switches (*6900 @ $3.47 ea); sprung loaded, centre off switch (*6905 @ $4.00 ea); single pole switches (*6903 @ $2.72); double slip switch; crossing symbol; turntable control and straight sections for the connection of components. All switches include wire for electrical connection. Overall the system has an impressive appearance, if not a trifle expensive for a large layout.

Bob Gallagher.

ECM motor for H0/00 and N scales.

The motor under review is the larger 'Type 2' in the ECM range. This British made motor resembles a 'can' motor, whilst not actually being one. 37.7mm long, 17.2mm high and 13.3mm wide the shaft is 1.8mm in diameter and 7.5mm long. There is no direct method of mounting provided although there is a 7.5mm x 1.5mm boss either end which would allow the inventive some method of fixture. At 12v DC the unit has a no load speed of 19100 rpm (manufacturers figures). As an extra a conversion kit can be obtained to use the motor as a replacement for the X04 motor, the latter making the motor a useful one.

Bob Gallagher.

Woodland Scenics Trees in HO scale. Our samples supplied by McBee's Hobby Centre, PO Box 144, Coburg, Vic. 3058 and Sans Souci Sports and Hobbies, 504 Rocky Point Road, Sans Souci, NSW. Price: $4.45.

These trees are essentially in kit form. The modeller has to bend the trunk and branches, paint them then apply the foliage.

The trunk is made of white metal and contains a great wealth of bark detail. A mounting lug is moulded on to the base. The trunk and branches are packaged flat and must be bent and twisted until a desired dimensional effect is achieved. Needless to say, the variations are limitless. This must then be painted. I used a couple of the Humbrol browns, highlighted with white.

The foliage consists of a mat of approx. 12" by 6". It is made of finely ground foam affixed to what appears to be a network of very fine nylon threads. The instructions say to cut off approx. 2" by 1" of this material, tease it out and glue in place. A final spray of hair spray, clear matt or similar material is recommended.

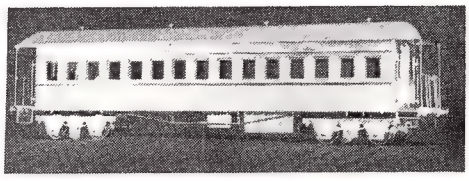
The instructions are explicit and contain a lot of suggestions for variations to the basic tree.

The photograph shows a 4" shade tree (on the left) and a 3½" double-forked (on the right). There are two trees in each of these kits. The full range contains 12 different types of trees (which vary in number per kit), a set of dead tree trunks and a box of foliage and turf — this alone can be very handy.

These trees would undoubtedly be the best yet produced but their price discourages total use of them on a layout. If placed in the foreground, or in a scene that relies on one or two trees to lift it, they are ideal.

Allan Brown

Despite rumours to the contrary the Sydney Model Railway Exhibition is still on at the Sydney Town Hall, Labour Day weekend.



NSWGR "FO/BI" suburban end-platform coach, in HO scale. Imported by Berg's Hobbies. The advance sample was reviewed by courtesy of the importer. Price: $55.00.

The end-platform coach was introduced to the NSWGR in 1879 and was built up to 1915, being utilised on the suburban services and interurban runs (Sydney and Wollongong, Gosford and Katoomba as well as the Newcastle area service and the Wollongong area service). The coaches had many codes, which in most cases corresponded with the internal fitments of the coach. A plan and general description of the vehicles is in the July/August 1972 issue of AMRM.

The FO coach (second class coding, with BI the first class coding) represented by the model is a mansard roof version with panel-board sides. Berg's also intend importing a version with the re-panelled sides where masonite was attached over the panel-board and held in place with moulded strips. The model scales well and captures the image of the prototype in every way. Overall dimensions are exact, and all joints in this hand crafted brass model were neat. The overall assembly is a combination of punchings and photo etching, and here all detail is sharp. The end platform handrails are firm and of good appearance. The attached buffers are the style usually attached to intermediate cars, the terminal ends having longer shanks on the buffer head. The formed brass roof has four ventilators attached.

The underbody has queenposts and truss-rods, which extend too closely to the ground level. The double battery boxes, have etched front panels which do not represent the correct twin double doors. The air and brake cylinders and the detailed electrical panel are well positioned, but there is no evidence of a generator. The end platform steps are very strongly attached, but too short. The floor of the car is detachable by screws to allow access for the provision of window glass after the model has been painted.

As indicated, this brass model of the NSWR FO/BI coach is a good representation of the prototype and runs well on the brass coined bogies which are fitted with pin-pointed wheels.

Bob Gallagher

Locomotion Ballast. All scales. Our samples supplied by the manufacturer, Locomotion, 14 Jennifer Crescent, Thirroul, NSW. Available at all good hobby shops. Price: $1.95.

For quite a few years I was a strong advocate for Scenimat ballast and was disappointed to hear of its prohibition into this country.

By chance I stumbled upon Locomotion's new ballast when it hit the Australian market earlier this year. Although I have been using it for some time now I have been given a few samples for purposes of review. Sort of like closing the gate after the horse has bolted!

This product is available in N, HO and O scales, but can be procured in larger sizes by contacting the manufacturer. The N and HO is available in both grey and rusty red, whilst the O is available only in grey. It is anti-magnetic, being made of crushed shale. It is packed in plastic bags of approx. 400 grammes.

All scales appear visually correct and can be used with each other. As an example, on my HO layout I prefer HO for the main line, N for the yards and O to represent blue metal in hopper wagons. The two colours can be mixed, thereby giving yet another variation.

Fixing is by either of two methods:

1. Determine position of track to be laid; paint area with glue or thick paint; tack down track; sprinkle liberally with ballast; remove surplus when dry with a soft brush.

2. Lay track first; cover with ballast and spread with a soft brush until desired contour is obtained; spray whole area with atomiser gun containing water to which a few drops of detergent have been added; go over whole area again with watered-down PVA glue, using an eye-dropper; let set.

I favour method 2, but, in the case of light ballasts, have found the gun to be too strong and to blow the ballast away. This does not happen with this ballast — it remains in place.

Using method 2, I was able to do around 10' of track from one bag, therefore I consider the price to be justifiable. It is a good product, home grown and recommended.

Allan Brown

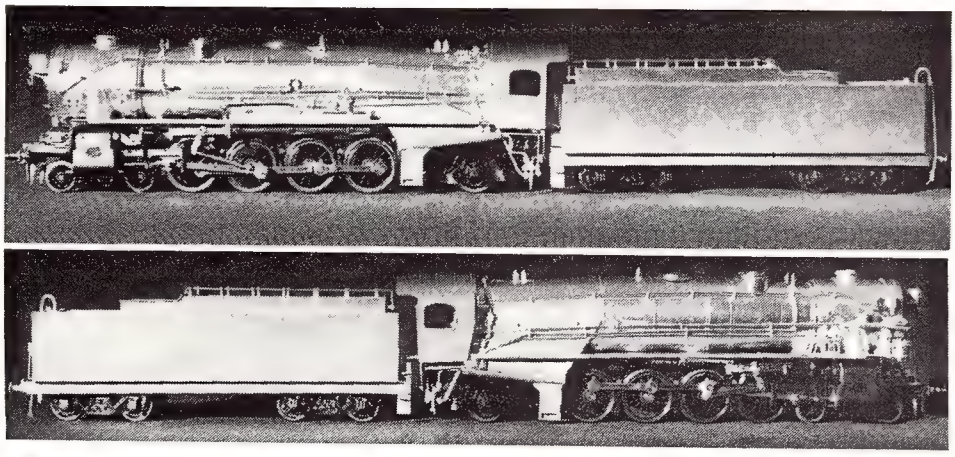
NSWGR D57 class locomotive in HO scale. Imported by Berg's Hobbies. Price: $325.00.

The D57 "Mountain" class locomotive was introduced to the NSWR in 1929 as a heavy goods loco and was designed to relieve the double-heading standard goods locos. A three

ENQUIRY CORNER

Melbourne — Eastern Suburbs. A 2 mm scratch-builder following VR prototype with layout under way is interested in meeting with one or two others with similar interests. Call 2779112 evenings.

LGB — Trevor James wants to hear from modellers who are interested in forming a LGB club. Trevor can be contacted at PO Box 251, Dee Why 2099



cylinder unit, the outside cylinder was controlled by Walschaert's valve gear and the inside cylinder by Gresley conjugating gear. Power reverse and mechanical stoker was fitted as standard unit. Due to their heavy weight the 25 units in the class were restricted to workings only between Sydney and Thirroul, Junee and Wallerawang. As delivered, 5701 had the twin air pump positioned on the running plate beside the boiler; however, as the unit was vibrated off, all air pumps were positioned alongside the smoke box. The unit modelled is the latter style.

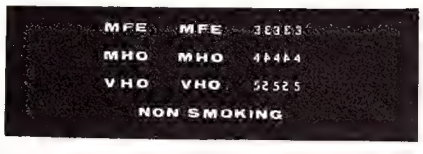
For purpose of the review reference was made to the D57 plan by DATA SHEET and D57 slides by NSWRTM. Overall the unit scales well, the only major discrepancies being the tender being short by one foot and the loco is 6" too wide. Being hand crafted brass the body is adorned with many lost-wax castings; however some are in the incorrect position and some were poorly added and have come loose. They can be resoldered, but care must be taken to have a hot iron and to completely clean away any evidence of the previous solder. A flux is necessary, Yorkshire brand suiting the job well. When resoldering the joint take care to only heat the area where resoldering is necessary, or other detail will drop off.

The boiler has the "humped" shape and detail includes rivets, handrails, power reverse, generator, air compressor, injectors, clack valves and full detailed smokebox front. The tender is equipped with oversized handrails, water filler, marker lights, ladder, handbrake and photo-etched tender front. In some instances the tender bogies had been reversed incorrectly, resulting in a "dead" model. By simply removing the bogies and repositioning so that the insulated wheels are on the opposite track to the locomotive insulated wheels, the loco will be made operative.

The mechanism is attached to a pre-blackened frame. The wheels are slightly undersized to allow operation and are fully sprung. The motor drives the second axle mounted, fully enclosed gearbox, via a plastic drive shaft. The front pony truck is sprung but needs either added weight or a stronger spring to allow the loco to ride over rough track. The feature of the unit is the valve gear, which all works, including the outside Walschaert's and the front Gresley conjugating gear. All of the valve gear is held together with screws and each owner would be strongly urged to disassemble the unit by two screws at the cab end and the front truck pivot screw, tighten all screws and check that all parts of the gear clear other parts in movement. In some instances the unit tends to short out and this is usually caused by a "burr" inside the trailing truck assembly, which is easily disassembled for removing the burr.

The loco body does not sit level on the underframe and this can be corrected by elongating the screw holes at the cab end. Overall, it is a nice looking unit, although the sloppiness in assembly tends to suggest that the units were slapped together. The model is not coated in the usual coat of protective clear plastic.

Bob Gallagher



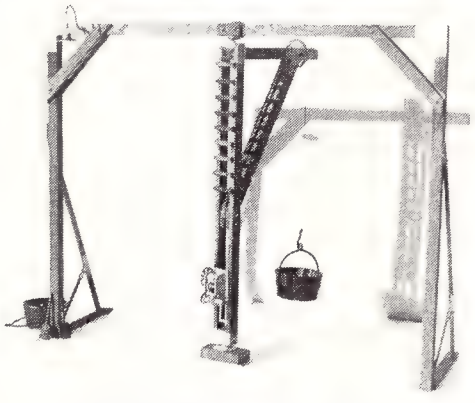
NSWR passenger car transfers by NSW Rail Transport Museum, PO Box 31, Burwood, NSW 2134. Sample was supplied by NSWRTM. Price: 60c per sheet.

Water slide transfers have become commonplace in the last year, primarily to allow lettering of rollingstock. This set covers the NSWR passenger coaches in HO scale. The letters are 1 mm high and the numerals slightly smaller. Basically they cover the many classes of cars that have been or still are available on the local market. The codes covered include, CR, MCE, MFE, MHO, VHO, CPH, AC, ACS, TAM, KP, GT, ACX, EAM, XAM, SBX, SFX, FR, BR, HR, HC, HBR, CTH, RBR, FO, BI, as well as GUARD, FIRST, SECOND, ECONOMY and Non Smoking signs. There are 21 sets of numerals from 1-9 (0). However, as there is only one set of FIRST and SECOND signs the set of transfers is slightly restrictive towards how many cars can be lettered from the one set. The instructions, which are printed on the rear of the sheet suggest that after the required part has been cut from the sheet, it (the part) be immersed in warm water for 30 seconds; however this time can be safely reduced without damage to the transfer. As seen by the samples illustrated above the physical size is near to what it should be allowing them to look realistic on accurately scaled letterboards. They do however appear too wide to fit between windows as some do.

A welcome follow-up to the passenger car kits that have been added to the market and even if only one or two cars could be lettered from each set, at 60c a sheet, there is value.

Bob Gallagher

THE ADVERTISING DEADLINE FOR ALL COPY FOR THE NOVEMBER/ DECEMBER 1977 ISSUE OF AMRM IS THE 19th OCTOBER, 1977.



Coal Loader by Durango Press in HO scale. Our sample was supplied by Aspect Models, 9 McGregor Street, Canterbury, Vic. 3126. Price: $13.10.

This kit will produce an ideal model for anyone building a short-line steam operation, and also a retail coal or other mineral outlet.

Whilst it is a kit which anyone could "have a bash at", considerable skill and patience will be rewarded with an excellent model.

Durango have supplied quality stripwood, with many sections cut to length, and white metal castings of superb detail.

Construction was started by prestaining stripwood and painting the "metal plates", neatly printed on the plan, a suitable colour for steel.

Assembly was facilitated by laying the plan on a board and covering it with "Gladwrap". This then provided a release for the adhesive. In our case PVA was used, permitting work on several sections concurrently.

The assembly of the hoist proved a little tricky — like assembling a watch — and "Astrobond" was used to complete the operation. All metal-to-wood joints were achieved with a contact adhesive.

The manufacturer has included sufficient nuts, bolts and washers in two sizes, a shovel and broom and an extra bucket.

Durango Press is to be congratulated for an excellent model, and, if you have not yet graduated from plastic kits, this will provide you with pride and satisfaction (and your visitors can count the nuts, bolts and washers).

Max Chaseling

Roco HO scale German Electric Locomotive. Our sample supplied by Punchbowl Hobby Centre, 761 Punchbowl Road, Punchbowl, NSW. Price: $51.35.

This HO model is of the German Federal Railways electric locomotive 111 009-7.

The body is one piece injection moulded plastic and the detail is crisp and sharp. Electrical components on the roof are meticulously detailed also. Paintwork and lettering is top-class and the smallest lettering (some 1½" high) can easily be read. The model is fitted with cab seats and a certain amount of cab detail at each end. Number 1 end contains a driver. Directional lighting is achieved by use of diodes, body mounted on a printed circuit board.

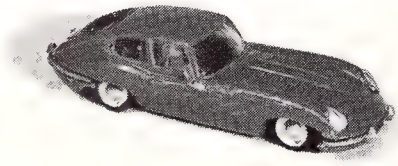
The underframe is heavy diecast. An extremely quiet can-type motor drives through each end via spring universal shafts into bogie mounted gearboxes, then through various reduction gears onto all axles. Two flywheels are fitted. Neoprene tyres are on one wheel of each bogie. Electrical pickup is by copper wipers on all wheels, although by turning a rather inconspicuous screw on the roof the loco is able to be run on either track power or overhead power, the latter through one, or both, of the pantographs.

The bogie detail (plastic) is amongst the finest I have seen and even includes speed indicating cables — something seldom modelled. Snow ploughs and conventional hook-link couplings make up the rest of the bogie.

Wheels are a compromise between European and American standards and I found the model to operate flawlessly on code 70 track and scale points.

Whilst not being able to verify the scale accuracy of the model I can only assess it on its general appearance — superb! It's performance could not be faulted and it especially liked inertia throttles. Its price is cheap for what is obviously a high-class model and, if this loco is any indication of Roco's workmanship, I must put this manufacturer to the top of the list. Thoroughly recommended.

Allan Brown



E-Type Jaguar in HO by EKO of Spain. Sample supplied by McBee's Hobby Centre, PO Box 144, Coburg, Vic. 3059. Price: 90c.

With any layout road vehicles are an added highlight, whether they be horse drawn or high powered. The E-Type Jag would be at home on a modern layout.

Moulded in pre-coloured plastic, this unit has clear windows but no interior detail. The headlights and wheel trim have been painted silver. The vehicle scales in at 15'×5'3" and is 3'9" high off the road. Detail includes bonnet louvres and door handles. The vehicle would need cleaning up for some flash is evident at die joints.

Bob Gallagher

AWABA from Steam Action Productions Collectors Series. A recording by Steam Action Production, PO Box 75, Ormond, Vic. 3204, who supplied the sample. Price: $

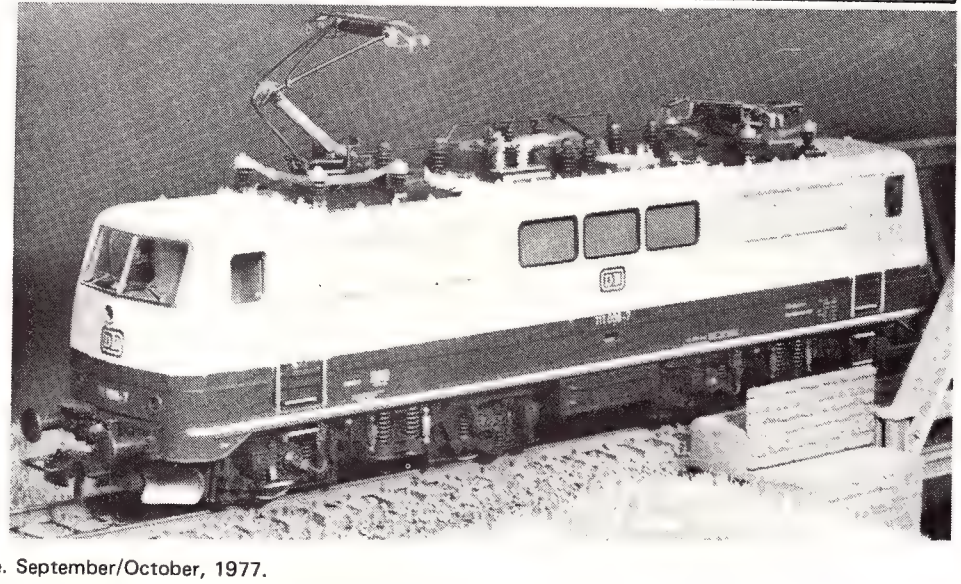
AWABA is a collection of steam recordings recorded at Awaba in NSW in 1967. There are only to be 250 copies of each 12" album in the Collector's Series. The album comes in a jacket that shows 3825 in mist steam on the front and 2830 at speed on the back. Cover notes are provided to assist the listener hear or understand many of the sounds; however some of the notes are virtually unreadable, for the lettering is "bled" into the scenery around 3820 and as such are very hard to decipher.

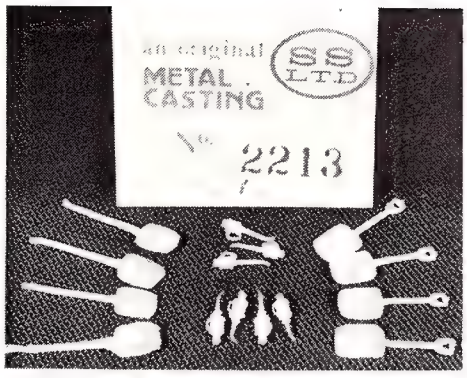
In all there are only 5 scenes but the tracks include 3521, 3644, 4001, 3820, 6034, 3818, 3809, 6010, 3824, 6042, 5139, 6036 and a gangers trolley. The inclusion of 4001 is allowable in a "steam" record for, to many, the beloved 40 class is considered to be a steam engine. With so many locos and only 5 recordings it is obvious that there is more than one loco per recording, and this is where this record excells, with the many crossings. One becomes so enthralled that a track diagram of Awaba would be virtually necessary to allow the listener to understand how many locomotives could be in the one area. The recordings, in mono, are sharp and capture many side sounds. The blast of a 38 whistle does rattle the windows as the cover notes suggest, and water does strange things to the same whistle.

One criticism that was found to be annoying is minor. However the abbreviation of the word "passenger" to "pass." can be too easily mixed with the word "pass", making the notes sometimes confusing. An enjoyable record of an era where steam's kingdom was nearly over.

Bob Gallagher

Despite rumours to the contrary the Sydney Model Railway Exhibition is still on at the Sydney Town Hall, Labour Day weekend.





SS Ltd. Metal Castings. Samples provided by McBee's Hobby Centre, PO Box 144, Coburg Vic. 3059. Price in text.

Any layout that is tagged "well detailed" usually has a conglomeration of paraphernalia spread all over the place. Many detail items have been available in the United States for many years but unfortunately they have not been readily accessible in Australia.

Thankfully, McBee's Hobby Centre has introduced the SS Ltd. range, which, while not cheap, is very well detailed in white metal and unpainted. Some flash is evident but easily cleaned off. The samples received are (2213) large oil cans — 6 to a pack; (2238) steel shovel — 4 to a pack; (2239) long handled shovel — 4 to a pack. All are $1.99 a pack and are realistic in size, detail and shape.

The full range of these packs is extensive — brooms, bars, wrenches, buckets, etc., etc. All we now need to see is the rest of the SS Ltd. range, including the bathroom fittings. To many these details seem unnecessary and trifling, but the detail on a layout or scene can bring about the atmosphere modellers aim to achieve.

Bob Gallagher

Walthers 1977 HO Railroad Catalogue and Craft Train Reference Manual. Purchased from the US at $US3.75.

This catalogue is the "what's what" in model railroad equipment in the United States. It does not cover every available item, just most. The range is huge, the different brands covered extensive. It is a must for the US modeller who wants to keep in touch and a gem for the modeller seeking the hard to get item. In many instances the items are available in Australia and, although the US price/exchange rate seems cheaper to buy from the US beware, for the Austalian Government is collecting duty — around 55% on most parcels that enter this country — making the item dearer.

One advantage of the catalogue is that it is a guide to what your local dealer can "get in" if he so desires. If he won't assist, seek one who will. This 336 page book is a well detailed, well illustrated catalogue for most items on sale are illustrated — most in full size. There are also some modelling hints included.

Bob Gallagher

Figures in HO by ROCO. Purchased from Hoopers Hobbies, Bunnerong Road, Matraville, NSW 2036. Price: $1.20.

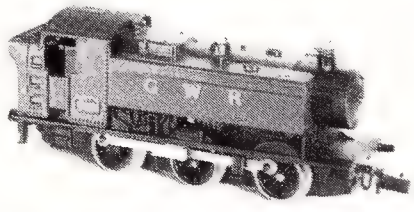
This set of 24 figures is the ROCO 4466 set. All the figures are moulded in styrene; flash and some sprue is evident but easily removable.

Although they are unpainted, the moulded colour resembles "flesh" and this would assist the painter. As with other brands this race of people are rather tall (between 5'8" and 6'6") but the body size does vary. The figures are not mounted on plinths but clear plastic stands are provided for the figures to be attached to.

There is not one duplicated figure in the set, most of which are either station/hotel staff or passengers/visitors. Some of the highly detailed figures include a seated man reading a book, a man in an overcoat carrying a briefcase and a bag, a porter carrying three bags, a rotund "squire" (waistcoat and all), a woman clad in an overcoat which the wind has caught and blown open and a waiter carrying a tray, teapot and all.

At 5c a figure these would have to be the best value around for figures.

Bob Gallagher



Grafar N scale 9400 Pannier Tank Locomotive. Our sample supplied by Fybren Models, PO Box 88, Ivanhoe, Victoria 3079. Price: $31.50.

Quite a nice little loco this, possessing as it does the new improved "Grafar" motor and chassis. This is the first of the Graham Farish "N" scale range of locos to be re-released and is quite an improvement over the previous offering.

It was found to be a quiet, smooth running loco proving fully capable of hauling everything British (I possess some 30 odd wagons) and gave the impression that it would haul more! Considering the record of other 0-6-0s in "N" scale this loco was found to be very acceptable pickup-wise — having no trouble through the majority of points, except at a dead crawl (on some).

The body is quite a nicely detailed one piece casting — well painted — and possessing sufficient weight to enhance tractive effort (as above).

All in all an excellent buy for the British modeller, heralding the shape of things to come in the rest of the range.

Bill Kerr

When writing to advertisers — Say that you saw their ad in A.M.R.M.

PETERBOROUGH PROFILE published by the Peterborough Museum and Art Gallery Trust, PO Box 186, Peterborough 5422. Price: $6.50 plus postage ($1.50) in a padded bag.

A boon for structure construction and backdrop painting the book is a limited edition published for the Peterborough centenary.

This railway town was originally called Petersburg, but in 1916 the name was changed during a "wave of misguided patriotism" which also resulted in such appealing names as Kaiser Wilhelm Street becoming mere Brown Street (no offence, Ed!)

Author Bob Goudie provides brief but interesting comment opposite 42 full-page, large-format illustrations: 30 colour, 12 black-and-white. I was quite surprised when I counted them — their variety and detail made them seem more. By confident work in crayon, dry-brush and water colour, artist Bill Walls has evoked the atmosphere of the Flinders Ranges with remarkable skill that makes an expatriate crow-eater homesick. The colours are especially notable.

What's in it for the modeller of other States? Simply, that the charming scenes of railways, landscape, well-preserved pre-1900 stone buildings, ruins and industrial structures are broadly typical of most semi-arid districts of inland Australia. There are six varied scenes rendered in just the right technique to be useful as guides for backdrop scenes. Well-preserved old buildings include four pubs, a compact bank and town hall, a courthouse, school and church (all just waiting to be modelled) and an excellent collection of small shops, including a view of shop roofs. Detail scenes are the cluttered backs of cottages and four industries. Two good railway depot views, and views of rusting "Eureka Tobacco" water tower and US-type column, are also well portrayed. Last — and I probably shouldn't add "but not least" because they do not match the standard of the rest of the book — are the drawings of a T class 4-8-0 and Beyer Garratt No. 402 now on site at Lithgow Zig Zag.

Clive Huggan

Grafar N scale LNER 1st/3rd Coach. Our sample supplied by Fybren Models, PO Box 88, Ivanhoe, Victoria 3079. Price: $6.30.

A nicely presented model of what purports to be an LNER mainline coach of the pre-war period, finished in a fairly effective "teak" scheme.

Model possesses interior compartment details and is a good runner albeit a bit light.

A combination brake/coach is also available.

Bill Kerr

Handy Hints

by Glad Wrap

SOME USES FOR CLEAR PLASTIC FOOD WRAP

- ☐ (a) Before modifying a proprietary model loco chassis, to fit a scratch built body, carefully wrap chassis in plastic film, leaving exposed only those parts that require modifying. The plastic protects the mechanism from cuttings during the modifying process and this saves a lot of time that otherwise would be spent dismantling before hand and cleaning up afterwards.
- ☐ (b) If you accidently knock your wife's box of pins off the kitchen table during a scratch-building session, you can soon put things right by wrapping a spare permenent-magnet motor in plastic and using it to pick them up in record time. The same applies to tacks and nails spilt whilst working on the layout, providing the offending items are made of ferrous metal.
- ☐ (c) Before placing rolling stock kit parts, to be cemented with epoxy resin, in a jig or clamp, place a layer of plastic film between parts and jig. This will prevent any excess adhesive from cementing the parts to the jig. The plastic film can easily be removed from the parts with a craft knife and fine file.

THE EXPECTED PUBLICATION DATE FOR THE NOVEMBER/DECEMBER 1977 ISSUE IS THE FIFTH OF DECEMBER, 1977.

THE ADVERTISING DEADLINE FOR ALL COPY FOR THE NOVEMBER/DECEMBER 1977 ISSUE OF AMRM IS THE 19th OCTOBER, 1977.

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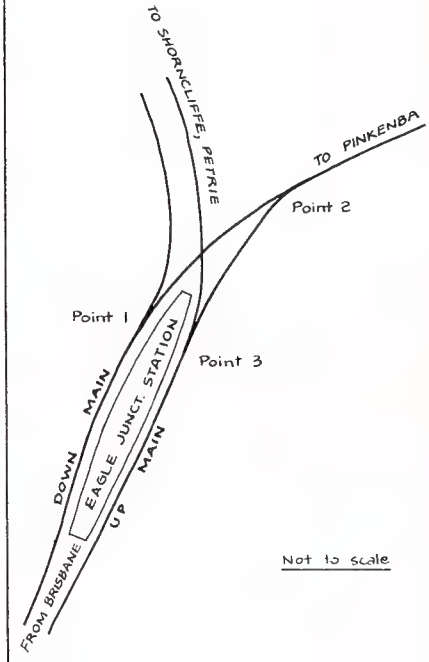
OPERATING PROBLEM

The sort of action that could only happen with toy trains???

An interesting piece of prototypical operation occurred on the Labour Day (Queensland) long weekend, due to the extensive track repairs between Eagle Junction and Toombul stations, where all down (from Brisbane) trains were required to cross to the Up main and travel to Northgate (4 km away) before crossing to the correct track again.

It is the change-over technique that is of interest, for there are no points to allow the track change at Eagle Junction and a different method, from the norm, had to be found. The Down trains were run down the single Pinkenlea line through *point 1* and past *point 1.* From *point 2* the train was reversed back past *point 3* where the train travelled forward Down the Up main to Northgate.

Greg Stephenson



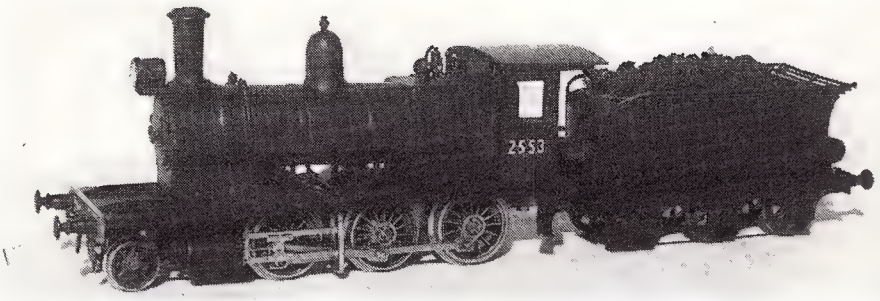
EXHIBITIONS

SYDNEY — NSW. October 1st, 2nd, 3rd at the Sydney Lower Town Hall. Open Sat. 0900-2230; Sun. 1200-1900; Mon. 0900-1900. Admission $1.00/60c. Organised by the Australian Model Railway Association, NSW Branch.

PERTH — WA. October 8th to 10th at the Subiaco Civic Centre. Open Sat. 1030-2100; Sun. 1000-1900; Mon. 1000-1800. Admission 60c/30c. Organised by the Australian Model Railway Association, WA Branch

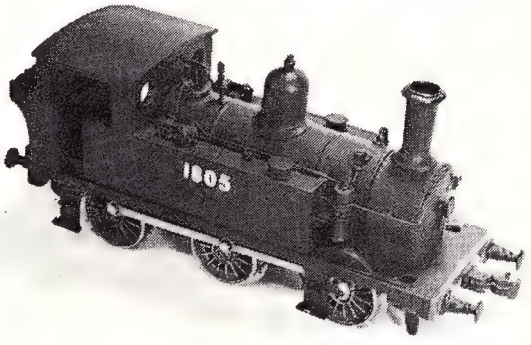
MELBOURNE — Victoria. March 10th to 13th at Camberwell Civic Centre. Open Fri./Sat. 1000-2200; Sun./Mon 1000-2000. Admission 90c/40c. Organised by the Australian Model Railways Association, Victorian Branch.

FSM



Z25 LOCOMOTIVE & TENDER KIT
H0 scale. $68.00 + 5% p. & p.

Work is nearing completion on the NSWGR C35 class loco kit which should be available by October. Send SSAE for information sheet, photo, price and delivery.
Delays from various causes up to now, are under control and our dispatching should improve in the future.



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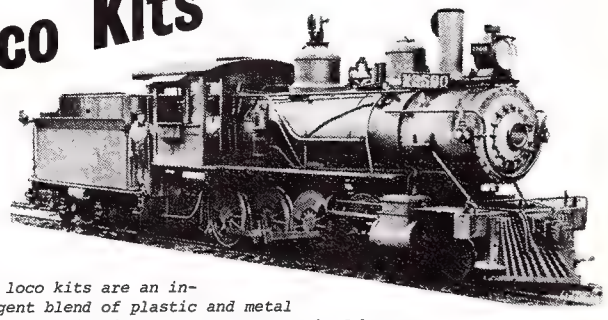
Loco Kits



These loco kits are an intelligent blend of plastic and metal parts resulting in good appearance gained by using plastic moulding for detail plus the weight needed for good traction gained by the employment of cast metal for chassis and other parts. They are complete kits as they include driving wheels, chassis, motor and gears and X2F couplers. Most loco kits can be assembled in two or three evenings and assembly is achieved with a minimum of tools.

KIT FOR 2-6-2 PRAIRIE LOCO WITH TENDER $59.95
440 Undecorated A.T. & S.F. 441 Santa Fe

KIT FOR 4-6-0 WITH TENDER $55.00
452 Undecorated Pennsylvania 459 B. & O. Harriman Coal Tender

KIT FOR 2-8-0 CONSOLIDATION WITH TENDER $59.95
467 N.P.R. with Harriman Coal Tender

KIT FOR OLD TIME 2-8-0 CONSOLIDATION WITH COAL TENDER $59.95
480 Undecorated 481 Southern Pacific
482 Santa Fe Railway 483 Pennsylvania
484 Union Pacific

CLIMAX

The kit has a one piece moulded body with a separate roof and detailing parts. The chassis is a ready-to-run, pre-assembled unit. The kit includes many optional parts for use at the modellers discretion.

Kit No. 2795 "Climax" Locomotive Kit - - - - - - $37.50
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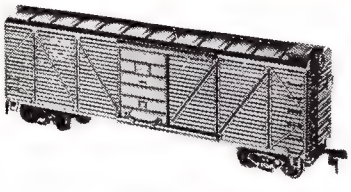
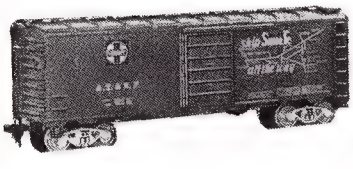
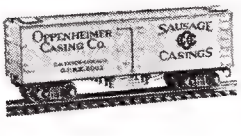
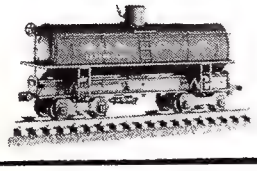
some other ROUNDHOUSE kits









LOCO TENDER KITS - Undecorated $11.25
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402 Coal (Penn. Style) 403 Vanderbuilt Oil/Coal
404 Old Timer Coal

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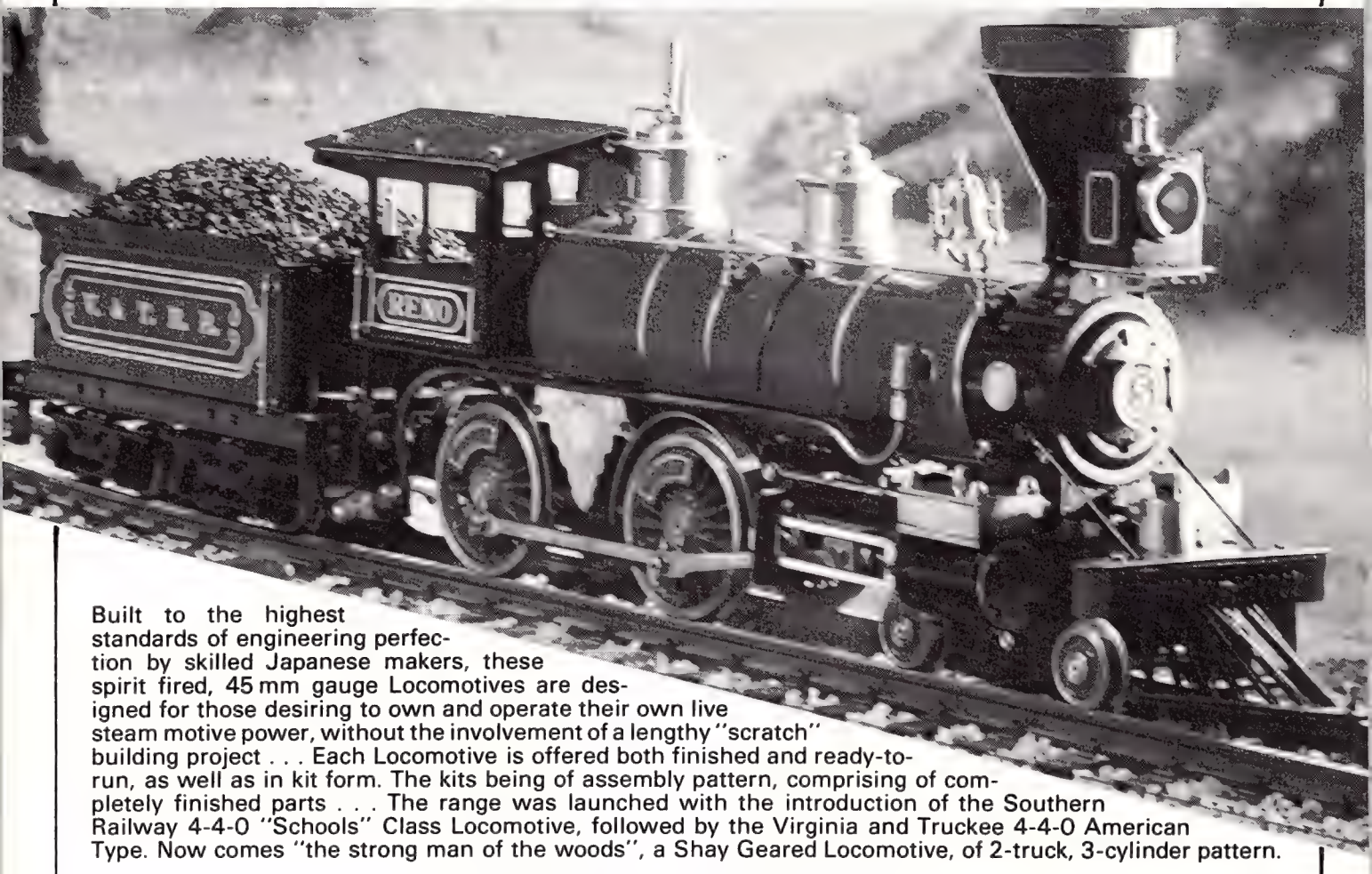

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PRICES AND SPECIFICATIONS

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Weight: Engine 2.7 kg; Tender 1.2 kg. Length: 570 mm. Width: 92 mm. Height: 127 mm. Driving Wheels: 62 mm diameter. Cylinders: 13 mm bore. Piston Stroke: 20 mm. Valve Gear: Slip Return Crank. Lubricator: Roscoe Displacement Lubricator. Boiler: Smithies type with safety valve, regulator valve, blower valve and water feeding check valve. Water Volume: 170 ml. Fuel Tank: 75 ml capacity with needle valve and automatic feeding apparatus.

Virginia and Truckee 4-4-0 "RENO" American Type Locomotive and Tender.

Assembled, painted, lined and lettered $975.00
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Weight: Engine 2.7 kg; Tender 1.3 kg. Length: 620 mm. Width: 96 mm. Height: 132 mm. Valve Gear: Slide Valve. Cylinders: 13 mm bore × 20 mm stroke.

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NEW DELIVERIES IN No. 1 GAUGE

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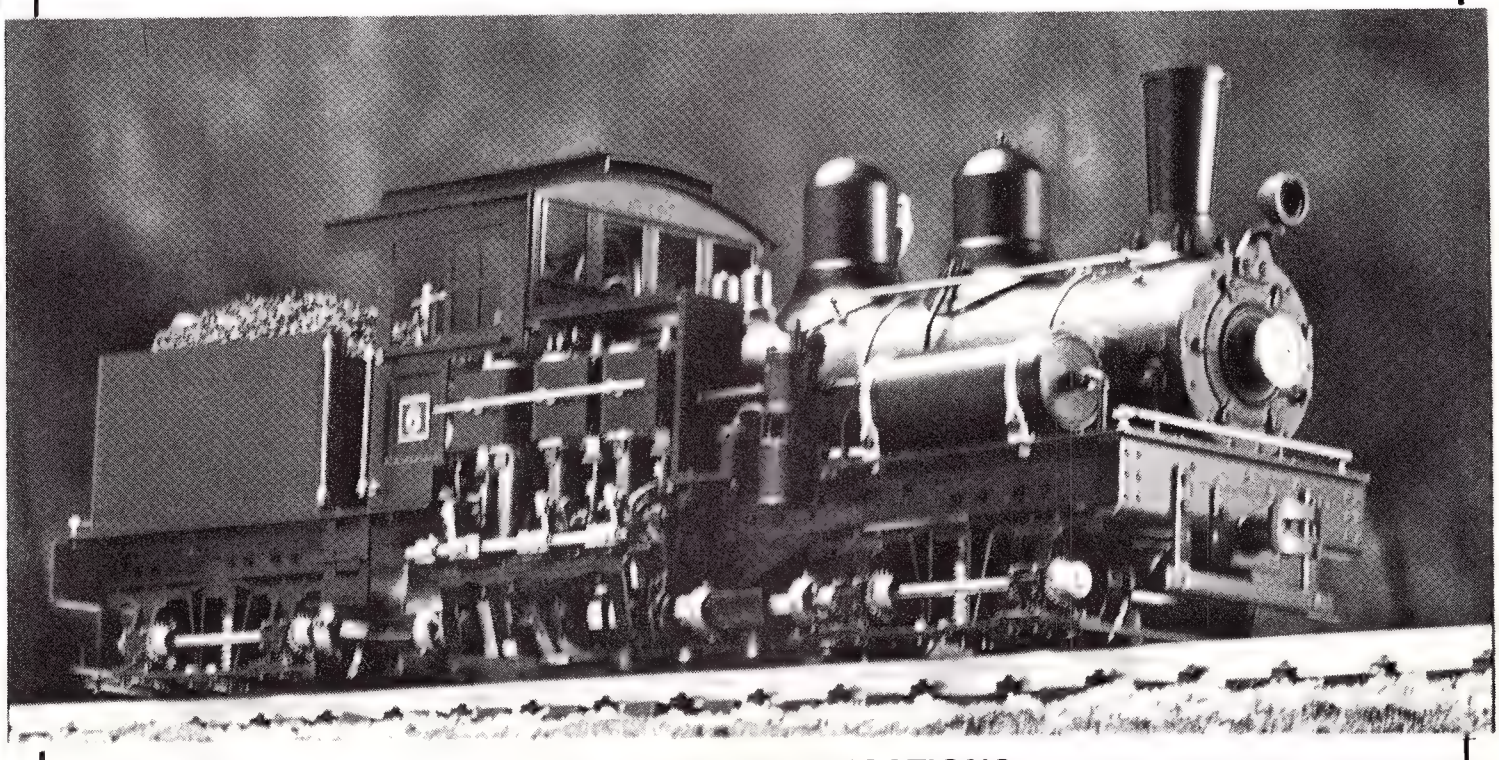

PRICES AND SPECIFICATIONS

2-Truck, 3-Cylinder Shay Geared Locomotive Assembled, painted, lined and lettered ..... DUE SEPTEMBER
Kit ..... DUE SEPTEMBER

Weight: 3.4 kg. Length: 435 mm. Width: 97 mm. Height: 141 mm. Drivers: 30 mm dia. Gear Ratio: 2:1. Cylinders: Three with slide valves. 8.8 mm bore × 10 mm stroke. Valve Gear: Stephenson type. Boiler: Pot type with safety valves, regulator and blower valves, water check valve, water gauge and pressure gauge. 140 ml capacity, 2.5 kg/cm² pressure. 36 mm dia. × 190 mm long. Fuel: Methylated Alcohol. Fuel Tank: 75 ml capacity. Water Tank: 160 ml capacity. Water Feeding Hand Pump: 10 mm bore × 16 mm stroke. Burner: Alcohol Burner with three wick tubes.

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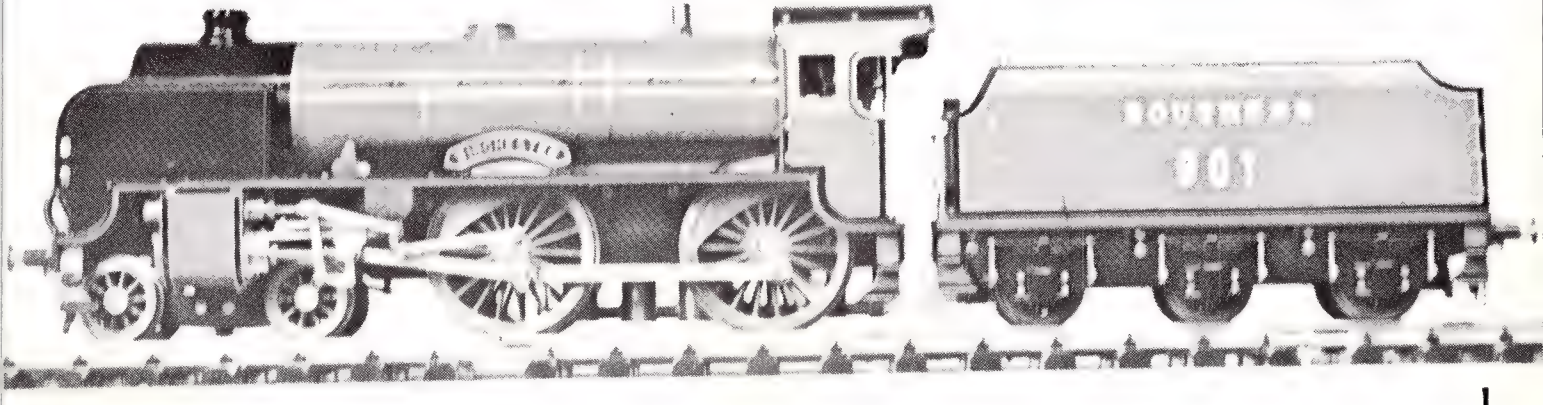

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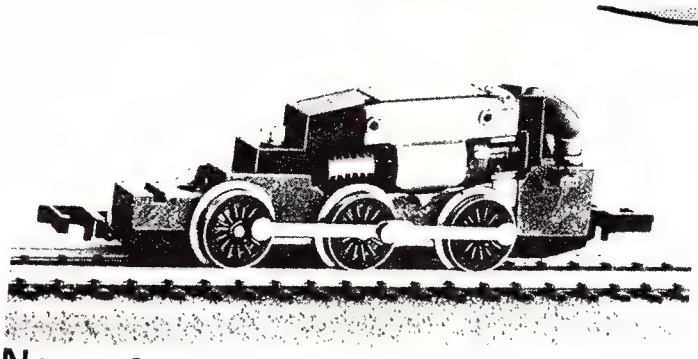

News from Grafar

WE were highly delighted to receive and test the new Grafar Blue Riband GWR Pannier tank for N gauge. Externally it is virtually identical with the original, though opportunity has been taken to improve the quality of the lettering. Internally it is totally different.

A new motor, integral with the chassis, and new wheels with pick-up on all axles and metal gears have transformed this model into an excellent performer. On test, our sample took a ten coach train round a circuit with 12in. radius curves. On the same circuit, it did baulk a little at a 58 wagon goods train, due to the friction of all these wheels on the curves, which led to excessive slipping but we did feel we were pressing the model to its limit. Certainly for an N gauge locomotive without traction tyres the haulage was exceptional.

Equally impressive was the slow speed running and response to the controller. We have no hesitation whatsoever in giving this superb British made mechanism our unreserved recommendation.

In the covering letter, Grafar Ltd. informed us that it is their intention to fit this improved mechanism into all their range of British Outline N Gauge locomotives.

We are delighted with this superb model, which must forward the modelling of British N gauge.

Editorial reproduced by kind permission of *Railway Modeller*, August 1976

OFFICIAL SUPPLIER TO A M R A VIC. BRANCH

What more could or need we say except to produce further new locomotives as released at the Birmingham Toy Fair _ including:

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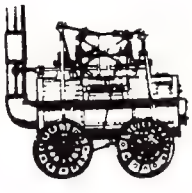

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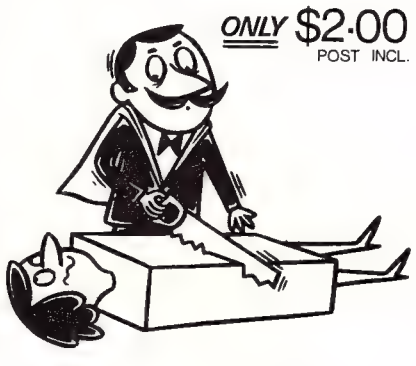

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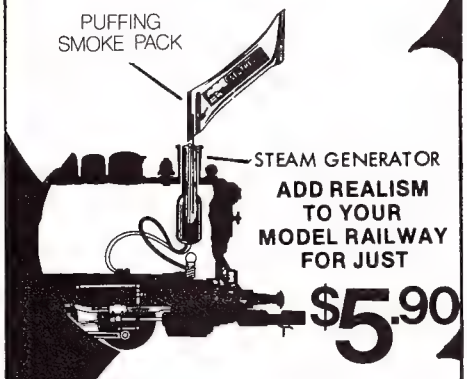

ADD REALISM TO YOUR MODEL RAILWAY FOR JUST

$5.90

Bill Webb stocks a unit to suit most makes of Locomotives in HO, O & No. 1 gauges. There are units too for houses, factory buildings and ships. Special units are available for the following Locomotives . . .

LIMA 38
FLEISCHMANN
MARKLIN
MARKLIN HAMO

Plus Universal units for most Locos with either metal or plastic bodies.

SEUTHE ACCESSORIES

Smoke Generating Oil

1. HO-Fit Cleaning Fluid for all gauge track, Locos and Rolling Stock.
2. Ultra Adhesive Oil — will **not** spin off!
3. Pressure Pack Care & Cleaning Spray.
4. 3-in-1 Track Maintenance Tool: Ripples, Files & Cleans HO & N Track.
5. **MODEL HOUSE COMPLETE WITH SMOKING CHIMNEY (HO)..... $5.76**

For Brochure, send a stamped addressed envelope together with the make, type of body of Loco and whether it has thin or standard smoke stack.

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Fully Accredited Agent for
E. SEUTHE PRODUCTS
W. GERMANY

BILL WEBB'S MAIL ORDER

AD VISE 062

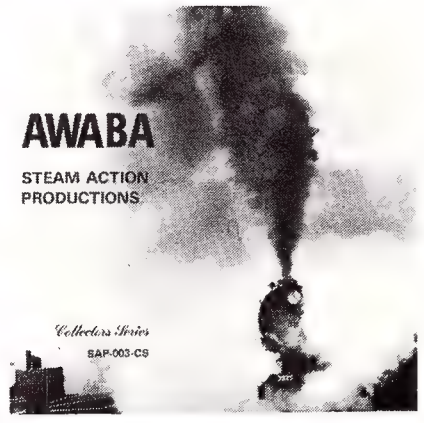
MAIL TO: P.O. BOX 68
FIGTREE N.S.W. 2525

Phone (042) 295824
21 Meares Ave., Mangerton

NEW RELEASE!

AWABA

"Collectors Series" Album.



AWABA that little known station on the short North some six kilometres from Fassifern, is the setting for this the first "Collectors Series Album" depicting Australian steam in its final years.

"Collectors Series" is a production of 300 mm albums *limited to only 250 copies* with each album individually numbered. So don't miss out, because when 250 are produced the record master will be destroyed.

AWABA has some of the most outstanding sounds ever released on any recording in Australia, for example:

3644 accelerating hard with a commuter,
3820 fighting for way on wet greasy rails,
6034 shunting a load of coal hoppers at the Awaba State Colliery,
6010, 3820, 6042, and 3824 all at Awaba together put on the greatest performance ever recorded.

Other locomotives included are: 3531, 6017, 3809, 3644 and 6010, 5139, 6036 and 4001. With a total playing time of 43 minutes, "AWABA" is excellent value at only $6.95 per copy. All of the scenes were recorded October 1967, with the best equipment of the day and though recorded in Mono, the maximum dynamic range has been captured so as to fully preserve the thunderous sound produced by the steam locomotive. Maximum care has been taken in mastering the album and with the recorded transients, "AWABA" will really test any HI-FI system.

AVAILABLE FROM:

IN NEW SOUTH WALES:
ARHS Newcastle Branch,
2 Rockleigh Street,
THORNTON, NSW 2322
New South Wales Rail Transport Museum,
Box 31, PO,
BURWOOD, NSW 2134

IN SOUTH AUSTRALIA:
Bridgland's Hobbies,
91A Gawler Place,
ADELAIDE, SA 5000
ARHS (Sales) SA Division,
PO Box 79,
MARDEN, SA 5070

IN VICTORIA:
Windsor Publications,
529 Collins Street,
MELBOURNE, VIC. 3000
ARE Sales,
PO Box 221,
CAULFIELD EAST, VIC. 3145

PRODUCED AND DISTRIBUTED BY:
STEAM ACTION PRODUCTIONS,
PO Box 75,
ORMOND, Victoria 3204

Punchbowl Hobby Centre

STOCKING:— ARNOLD ● ATLAS ● ATHEARN ● BUSCH ● BEC ● FALLER ● FLEISCHMANN ● HORNBY ● H&M ● HELJAN ● HEKI ● KADEE ● KALBACH ● K & S ● LIMA ● MGW ● MINITRIX ● MERIT ● MODEL POWER ● MEHANOTEHNIKA ● PECO ● PROTYPE ● PLASTRUCT ● POLA ● ROUNDHOUSE ● ROCO ● RATIO ● RIVAROSSI ● SHINOHARA ● SUPERQUICK ● S & N ● TYCO ● VOLLMER ● WIKING ●

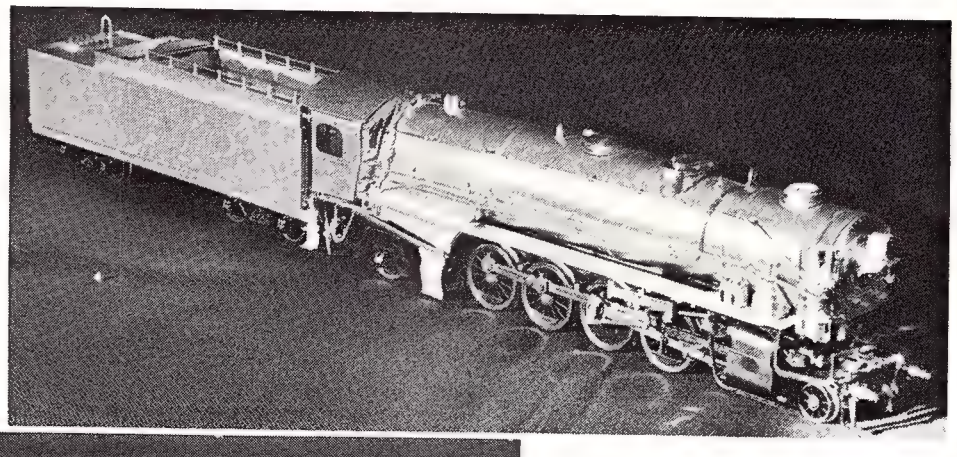
NEW in "N" Scale — PECO JUBILEE Mk III #NL21

NEW in HO Scale — ROCO BR181 DB #4142A Blue/Beige
ROCO BR181 DB #4142A Blue
ROCO BR116 DB #4143 Green

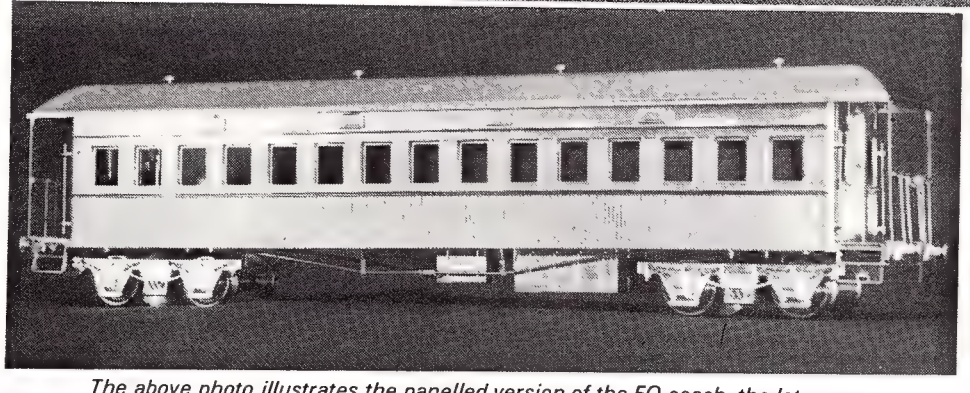
BANKCARD **LAY BY** **MAIL ORDER**

761 PUNCHBOWL ROAD, PUNCHBOWL 2196. Phone (02) 709 5082

Bergs Brass Models



NOW AVAILABLE
NSWGR D-57
HO SCALE Unpainted
$325.00
Limited numbers, be early.



The above photo illustrates the panelled version of the FO coach, the later re-panelled version is also available.

EXPECTED SEPTEMBER
NSWGR FO cars.
Unpainted ready to run
original and repanelled
side styles available.
$55.00 including bogies.

MRC/Friedmont Australian model kits always in stock, as well as suitable bogies in brass or plastic and transfers for lettering models.

Try our Custom Painting Service for the above models.
Prices on application.

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from good hobby shops everywhere

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SIGNAL KITS

LQ/60 G.W.R. lower quadrant old type taper square post, ground signals & route indicator box ---------- $2.40
LQ/61 G.W.R. lower quadrant tubular post makes two signals ---------- .80
UQ/70 L.M.S. upper quadrant - will make four signals with 4 ground signals $2.40
LQ/70 Lower quadrant L.N.W.R. square post, makes up four signals ---------- $2.40
UQ/80 L.N.E.R. lattice post upper quadrant (ex GNR)- makes up 4 signals ----- $2.40
PT/50 Pratt Truss Signal Gantry contains girder mouldings, smoke deflectors etc. ---------- $1.75

TELEPHONE POLES

TP/1 Telephone Poles in packet of 16 --- .70

G.W.R. 4-WHEEL COACHES ---------- $2.95

5610 All Third 5612 Compo 5613 Bk/3rd

L.M.S. (MIDLAND) COACHES

Low Roof 48ft Suburban ---------- $4.95
5710 All 3rd, 8 comp. 5711 All 1st, 7 comp.
5713 Bk/3rd, 6 comp. 5714 Bk/3rd, 4 comp.

48ft. Clerestory ---------- $5.95
5720 All 3rd, 6 comp., lavatory, luggage
5722 Composite, 3 - 1st, 3 - 3rd, lavatory
5723 Brake 3rd, 4 comp. lavatory, guard

LOCOMOTIVE & TENDER KIT

5778 L.M.S. (ex Midland) Johnson 2-4-0 $37.50
The ideal companion for the L.M.S. coaches listed above.

FENCING

F/ML1 Lineside Fencing - 4 bar - 850mm - .70
F/MS2 Station Fencing, diagonal picket (Midland) - 850mm (white) -------- .70
F/WS3 Station Fencing, vertical picket (GWR)- 765mm approx. (white) ----- .70
F/WS4 Station Fencing, vertical picket (GWR)- 765mm approx with gates & ramps ----------

AN AMC DISTRIBUTED PRODUCT

Enquire about AMC PRICE LISTS at your nearest AMC stockist.

GEM — AN AMC DISTRIBUTED PRODUCT — HO/00

16.5mm GAUGE LOCO KITS

9564Ψ F.W. Webb's Watford 0-6-2T ------ $21.50
9565¶ Crewe Special 0-6-0 Saddle Tank - $20.00
9566Σδ LNWR George V & Precursor 4-4-0 - $27.50
9573δ LNWR "Cauliflower" 0-6-0 -------- $27.50
9576▽ GWR Collett 56XX 0-6-0T --------- $21.50
9577Σδ LMS (Midland) Compound 4-4-0 ---- $27.50
9580Σδ LNWR "Precursor" 4-4-2T --------- $21.50
9581A L-1 Chassis with 24mm drivers --- $18.50
9581B L-1 Chassis with 26mm drivers --- $18.50
9582Σ§ North British Railways "Glen" Class 4-4-0 (LNER D34) ---------- $27.50
9583Ψ LNER J83 Class (NBR D Class) Tank 0-6-0T ---------- $27.50
9584 Chassis for J83 0-6-0T ---------- $ 9.00
9585Σδ Midland "Deeley" '999' Class & Johnson Class 3 4-4-0 ---------- $27.50
9586Ψ LNER J36 N.B.R. Holmes Rebuild -- $27.50
9588δ LNWR "Precedent" Class 2-4-0 (Jumbo) ---------- $21.50
9581 LNWR 20 ton Brake Van - 6-wheel - $ 3.95

NEW LOCOMOTIVE KIT

9592γδ GWR (ex Cambrian) 2-4-0T -------- $21.50

SYMBOLS INDICATE ITEMS REQUIRED TO COMPLETE

Σ No. 9851 Chassis
§ Hornby X04 Motor or eqivalent
δ Hornby XT60 Motor
▽ Hornby R152 Chassis

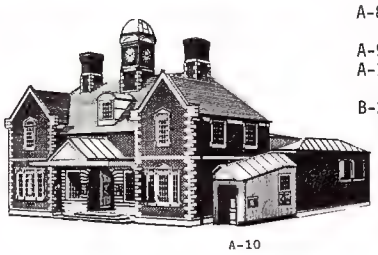
MICE has had a face lift, ask for it at your nearest AMC stockist. It's free!

Ψ Gem 9584 Chassis, K's Mk11 Motor, Romford Wheels
¶ Gem 9584 Chassis, SP "Crewe" Wheels, Romford Gears, K's Mk11 Motor
-- SP "Crewe" Drivers for 9565 - Pr. $2.75
γ 18mm Drivers, 12mm leading wheels, Romford Gears

ACCESSORIES

9501 Universal Point Lever with 3/16" throw and positive lock -------- $1.25
9504 Angle Crank on horizontal base -- .30
9521 Omega Loops ---------- Pkt 12 1.25
9540 Flexible Track - N.S. Rail -- Yd. 1.75
9544 Rail Joiners fit Gem HO/00 & TT3, Peco HO/00 & O, Rivarossi HO/00 & O Flexitracks - Packet of 36 ---- 1.00
9522 Water Crane Kit ---------- 1.25
9553 Rail Built Buffer Stop ---------- 1.25

SUPERQUICK MODEL KITS



A-10

A-1 Station Platform (side) 610 x 51mm $1.95
A-2 Side Platform Building 146x57x57 -- $1.95
A-3 Island Platform 610 x 63mm -------- $1.95
A-4 Island Platform Building 356x25x44 $1.95
A-5 Two Track Engine Shed 292x114x114 - $2.95
A-6 Signal Box 127 x 70 x 95mm with Platelayers Hut 55 x 38 x 38mm -- $1.95
A-7 Goods Shed 127 x 102 x 95mm ------- $1.95
A-8 Water Tower 98 x 66 x 120mm with Weighbridge Shed 71 x 40 x 50mm - $1.95
A-9 Block of Flats 203 x 51 x 95mm ---- $1.95
A-10 Large Terminal Building with side buildings etc. 195x160x180mm ---- $3.95
B-21 Swan Inn 152 x 89 x 114mm --------- $1.95
B-22 Two Country Shops 60x70x127 & 57x44x120mm--- $1.95
B-23 Barclay's Bank 139 x 70 x 120mm --- $1.95
B-24 Farmhouse 159 x 57 x 102mm -------- $1.95
B-25 Police Station 165 x 70 x 102mm --- $1.95
B-26 Hayloft & Barn 152 x 76 x 114mm --- $1.95
B-27 Supermarket 152 x 83 x 102mm ------ $1.95
B-28 Elizabethan Cottages ---------- $1.95
B-29 Church with steeple ---------- $1.95
C-1 Low Relief Hotel, Offices & Restaurant ----- $1.95
C-2 Low Relief Cinema,Post Office, Shop $1.95
C-3 Low Relief Block of Flats and Shops $1.95
C-4 Low Relief Period Shops & Offices - $1.95

BUILDING PAPERS ----------per sheet 18 cents

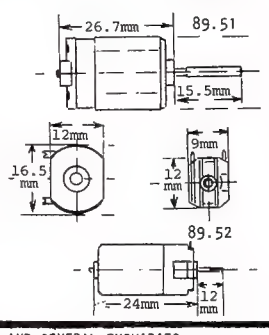
D-1 Red Brick
D-2 Yellow Brick
D-3 Engineers Blue Brick
D-4 Flat Red Tiles
D-5 Grey Slates
D-6 Grey Paving Stones
D-7 Pink Paving Stones
D-8 Grey Sandstone Wall (Ashlar)
D-9 Red Stone Wall (Ashlar)
D-10 Grey Sandstone Wall
D-11 Red Stone Wall (Coursers)
D-12 Grey Rubble Wall
D-13 Red Rubble Wall

AN AMC DISTRIBUTED PRODUCT

some recent AMC releases

HO/00 Motor No. 89.51 ..... $10.95
N Gauge Motor No. 89.52 .... $9.50

(Sketches below show main dimensions)



RIVAROSSI N

9010 "The Shenandoah Freight" Mallet Articulated Loco with 8 freight cars and caboose $117.50
9004 "Loreley Express" German DB Streamlined Pacific Loco with three passenger cars $77.50
9321 4-wheel Tank Car "IP $3.00
9374 Bay Window Caboose, Norfolk & Western $3.75
9548 Dining Car, Milwaukee $6.25

VOLLMER HO/00

3538 Platform with canopy 1100 x 48 x 70mm $11.95
3732 Vine Grower's House 120 x 90 x 145mm $10.95
3734 Old Time Tannery with living quarters in 2nd Storey & attic above 110 x 85 x 120mm $10.50
3733 Bakehouse 60 x 55 x 75mm $5.50
3751 Old Time Fire Station with tower 290 x 120 x 220mm $21.50
3752 Old Time Fire House with tower 120 x 120 x 220mm $12.95
3753 Old Time Fire Engine House 170 x 120 x 140mm . . . $10.95
5785 Six stall Roundhouse - this is like two No. 5734 3-stall roundhouses $59.95

NEW MOTORS FOR HO/00 & N

We've recently received these motors one for HO/00 and one for N. Both are 12v D.C. 3-pole can type motors of sound construction with cylindrical commutators. The HO/00 motor has a brass extension fitted to the shaft which measures ½" long by .093" diameter and the N motor has a shaft of .043" diameter which extends about ½" from one end.

Prices in this advertisement are recommended prices only and there is no obligation for dealers to comply with the recommendation.

FOR TRADE AND GENERAL ENQUIRIES:-
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BOX 118, P.O. ALBURY, N.S.W. 2640
Phone (060) 21 2473
577 Dean Street, ALBURY

from good hobby shops everywhere

For the past few months we have confined our efforts to the production of 2 or 3 different models only. This enables us to produce items with greater efficiency than is possible when attempting to market 8 or 9 different models at one time. Therefore we are NOT currently issuing lists, the regular advertisements being sufficient to provide notice of models presently available.

R SERIES CARS

These are a complex group comprising at least 25 different types. We intend ultimately to produce 9 kits and some accessory packs, which will enable the modeller to build 20 different cars by purchasing the required combinations. Following our recent policy we shall only be producing 2 or 3 different types at any one time.

Please note that as a new model is introduced an earlier one will be discontinued.

Customers are advised therefore to obtain kits needed for their particular set as they become available, as it is unlikely that a kit will be rerun once withdrawn.

R SERIES CAR INFORMATION SHEETS now available at 70c post paid.

These sheets are to assist modellers to determine which kits etc. they require. Details of set consists at various dates are given, together with car numbers, painting information and some additional notes on kit assembly.

We expect ot have one or two new kits available at the October exhibition.

WORKSHOP 5 MODELS

P.O. Box 24, BEROWRA HEIGHTS, N.S.W. 2082
Tel. (02) 456-2668
9 a.m. to 6 p.m. Weekdays
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Personal callers by appointment only.

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● Peco Electrofrog and Insulfrog Points, flex track ● Shinohara Points and code 100 flex track.

● Rivarossi ● Roundhouse ● Protype ● Ratio ● Kadee ● Mehanotehnika ● Lima ● Kibri ● Pola ● Heljan ● Bachmann ● Superquick ● Builder Plus

Brass sections, tubes and sheets, Badger and Humbrol air brushes, Styrene sheet, BA screws, nuts, taps and drills, Lichen, Flock, Ballast, Cork underlay.

● PMH bogies ● AMRI accessories ● Romford drivers, axles and gear sets ● MGW wheels ● Mn'J decals ● Chartpak ● Sentinel and Protype fittings

LOCOMOTION

Mk 3 control unit	$45.50 ea
C.D. point power	$14.85
Precision oiler	$ 3.30
Press button switch	$ 1.50 pkt 4

504 ROCKY POINT ROAD,
SANS SOUCI, NSW 2219
Phone 529 9809

RAILCRAFT Code 55 weathered nickel-silver rail, 33 x 3 ft lengths $20.00; H0n3 weathered sleepers $4.20 per 1000; H0 sleepers $4.25 per 1000; code 55 rail joiners $2.16 per 50.
BEMO German narrow gauge (H0 on 9mm track): transporter bogies for carrying standard gauge rolling stock on n.g. track $4.90 a pair; buffer van (for coupling n.g. loco to std. gauge rolling stock) $11.40; also passenger cars, goods vehicles, wheels and link-and-pin couplings. Illustrated catalogue 20c.
DURANGO PRESS Handcar shed with handcar $18.95; Ashpit $22.90; Coal loader $13.10; Water column $3.70; Water tanks $17.50; Track speeder $5.80; write for illustrated list of full range.
SCALE STRUCTURES Tool house with pillar crane $24.15; Ford rail inspection car $12.70; large range of other kits also available.
RIO GRANDE MODELS and **WHEEL WORKS** kits also stocked.

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Australiana Series

AUTHENTIC H.O. SCALE MODELS

MADE IN AUSTRALIA

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6 wh WDT Switcher	25.00 ea

ATLAS HO Gauge

SD 24, SD 35, EMD E-9	29.70 ea

ATLAS "N" Gauge

GP 40 AT&SF, ACL, PC, SP	11.00 ea
SD 45, CB&Q	12.00 ea

AUSTRALIAN PROTOTYPE

Lima C38 Black or Green	37.00 ea
Lima 44 C1	18.00 ea
Protype Z19	47.00 ea
Protype WGX, BDX BCW, BHG, VLX	8.00 ea
Protype LCH, CW, PV, CV, SRC, S	4.90 ea
M.P. 42 C1, with Flywheel	37.00 ea
"N" Gauge Aust. Decal Sets	1.00 ea
"HO" Gauge Aust. Decal Sets	1.00 ea

BADGES

PB 15 Pioneer Valley Collector's item	2.95 ea

FOWLER HO ACCESSORIES

Slow Motion Semaphore	10.00 ea
Slow Motion Level Crossing	10.50 ea

LIGHTS, SIGNALS

Fluoro, Mercury Street Lamps	1.20 ea
2 Lt Col Sigs "N" 3.25 ea; "HO" 3.60 ea; "O"	3.55 ea
3 Lt Col Sigs "N" 2.15 ea; "HO" 3.80 ea; "O"	3.55 ea
Hiway Crossing "N" 2.20 ea; "HO" 3.95 ea; "O"	4.10 ea
Flashers	6.95 ea

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Rys. of S. Maitland Coalfields	6.50 ea
Rys. of J&A Brown	4.50 ea
Shale Rys of NSW	7.75 ea
To Cessnock and Beyond	2.25 ea

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Ready to Mount with notes

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4. C38 Locos (Set of 38)	6.60 ea

NICKEL PLATE "HO" WEATHERED TRACK

Flex Track 1 metre Code 100	2.25 ea
No. 5 Switch LH, RH	3.45 ea
No. 7 Switch LH, RH	3.95 ea

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Repainting of MARKLIN locomotives.

Select your spare parts at the lowest possible price, from our very large range, or we will carry out the repairs at REASONABLE RATES.

ATTENTION

A SELECTION OF RARE MARKLIN LOCOMOTIVES IN KIT FORM ARE NOW AVAILABLE FOR A LIMITED PERIOD. e.g. 3001, 3005, 3011, 3023, 3024, 3046*, 3059*, 3073*, 3076*. (*Available also as HAMO).

WRITE FOR LIST AND PRICES.

We can now supply the following brands at discount prices:
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For the model railroad specialist, where the emphasis is on the modeller and his requirements. Regular shipments of specialist lines will arrive each month.

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THE FANTASTIC TOY & MODELSHOP

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BIG RANGE HO—OO and N gauge Model Railway equipment. Also stocks of RIVAROSSI, HORNBY, LIMA, PECO, KADEE, ROUNDHOUSE, MINITRIX, A/Rapido, Athearn, Superquick and many others. Full range of Building Kits. SALES & PROMPT REPAIRS. AUTHORISED HORNBY SERVICING AGENT.

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RAILWAYS EXCLUSIVELY. Scratchbuilders parts by Kemtron, Cal Scale, Selleys. Wood shapes, planks, roof sections, trucks, couplings, wheels. Kits and RTR by most scale brand names. 0 — H0 — N and Narrow Gauge in these scales. Roundhouse spares. Mail orders welcome.

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MAGAZINES. Railway Transportation, Jan. 59 to Dec. 60, Feb.-Dec. 74; ARHS Bulletin from Feb. 63, ARHS Bulletin from May 75. A Bailey, 2 Darling Place, Sylvania Waters 2224. Ph. (02) 522 8328.

MAGAZINES. Model Railway News, 60 1950, 1971 $25. Model Railways 1974 $8; Trains Illustrated 1952 Feb.-July, Sept.-Nov. $5; Model Railways 9, 1972, 1973, 1975 $5; Railway Mag. 9 1952 $4.50 ono. Price includes P/P. Money order only. SAE S. Hicks, PO Box 10, Padstow 2211.

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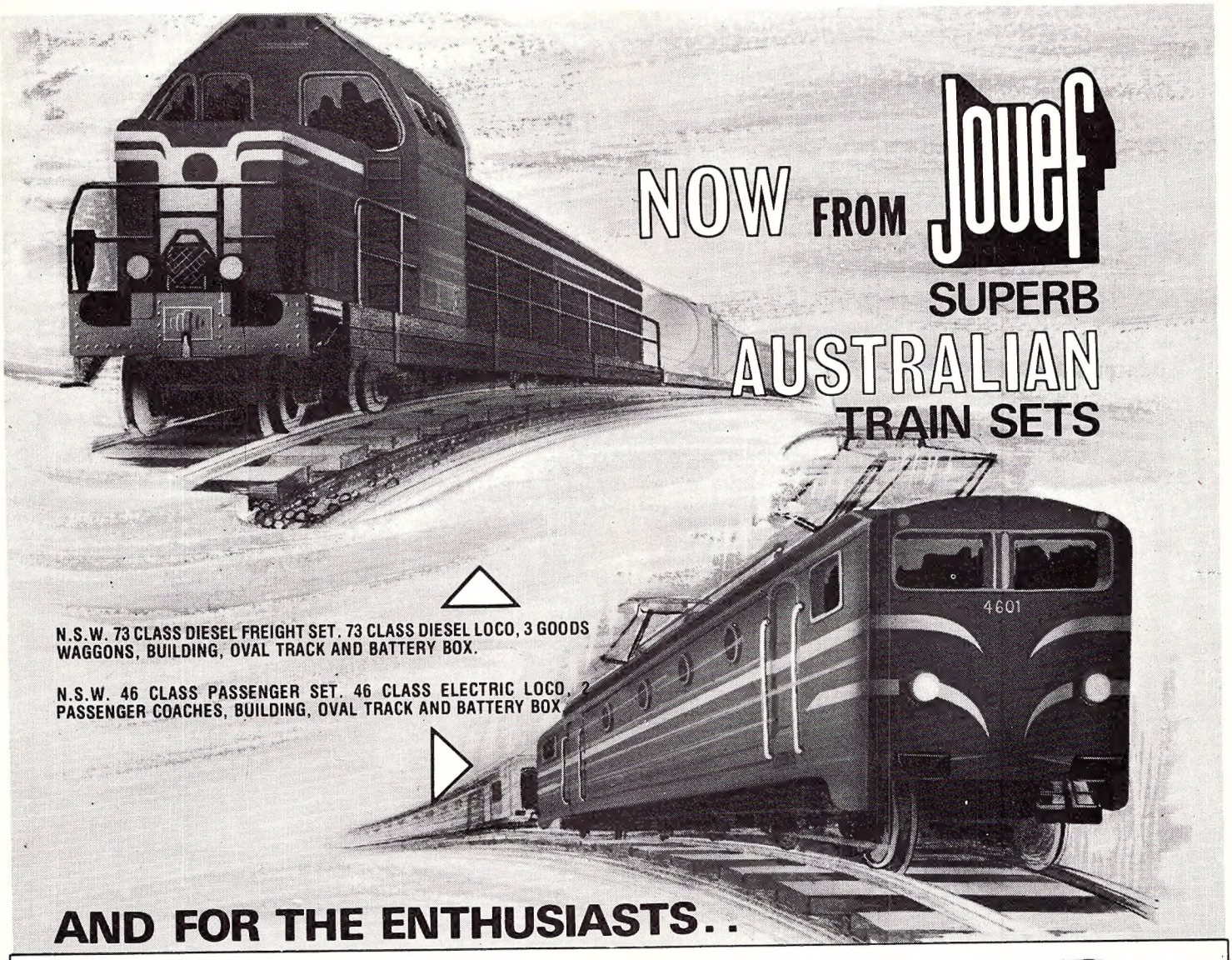

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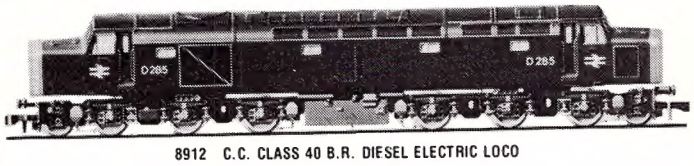

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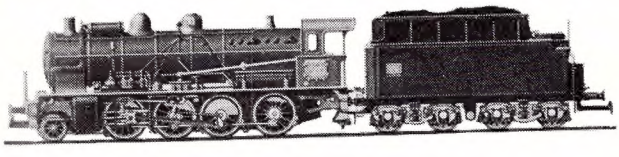

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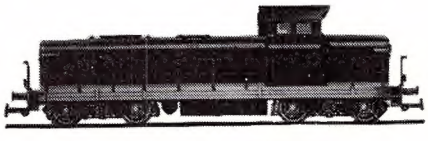

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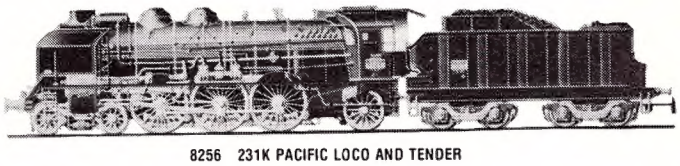

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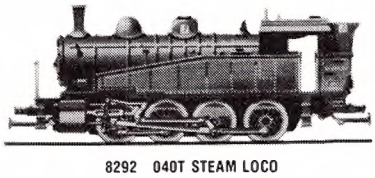

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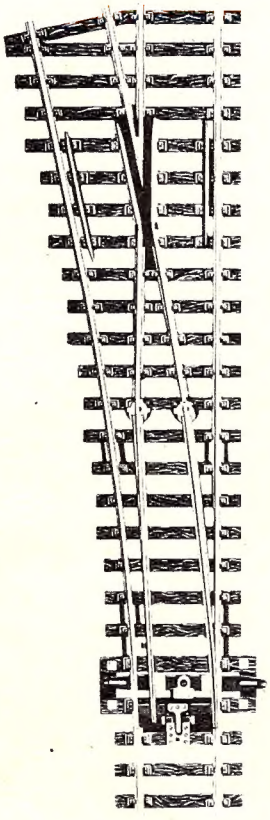

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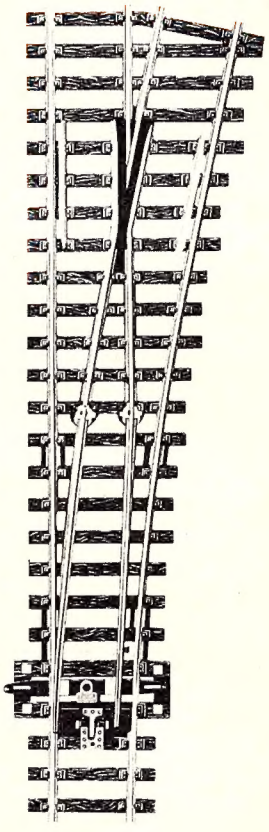

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